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Mechanism for Leadership Development and Effectiveness: The Relationship between Followership, Leadership, and Psychological Capital

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MECHANISM FOR LEADERSHIP DEVELOPMENT AND EFFECTIVENESS: THE RELATIONSHIP BETWEEN FOLLOWERSHIP, LEADERSHIP, AND PSYCHOLOGICAL CAPITAL

by

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ABSTRACT

Research supports the strategic role of a leader in improving individual and organizational performance (Day et al., 2009; Kaiser & Curphy, 2013). Developing leadership and enhancing leadership effectiveness remains at the forefront of organizational strategic plans (Day et al., 2009; Kaiser & Curphy, 2013). However, a majority of leadership development efforts fail in their purpose, which causes a leadership crisis in many organizations (Fernández-Aráoz, Roscoe, & Aramaki, 2017; Gurdjian, Halbeisen, & Lane, 2014; Kaiser & Curphy, 2013; Madanchian, Hussein, Noordin, & Taherdoost, 2017; Pfeffer, 2015; Wakefield, Abbatiello, Agarwal, Pastakia, & van Berkel, 2016). Neglecting the role of followership and using inappropriate measures of leadership effectiveness are among the reasons of ineffective leadership development programs.

This study examined a mechanism for leadership development and effectiveness consisting of the relationship between followership, leadership, and psychological capital. The study examined followership as a predictor and psychological capital as an outcome and measure of leadership effectiveness. The study also examined the relationship between followership behaviors and leadership behaviors that bring the greatest positive variance in psychological capital. Employing a non-experimental, predictive, cross-sectional research design, this study used partial least squares structural equation modeling to examine the research objectives. The data were collected using a convenience-sampling method from a sample of 92 students enrolled in a university.

The study finds active engagement dimension of followership a significant predictor of transformational, transactional, and passive/avoidant leadership. The

independent thinking dimension of followership did not show a significant relationship with leadership. The study provides empirical evidence about followership behaviors and transformational leadership behaviors as predictors of followers' psychological capital. The study empirically tested and confirmed the mediation of transformational leadership in the relationship between active engagement and psychological capital. The study also provides empirical evidence that active engagement, independent thinking, and transformational leadership jointly bring maximum variance in psychological capital. The results of the study provide information regarding potential benefits to leaders, instructors, higher education institutions, and scholars of leadership, followership, and psychological capital.

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I am sincerely thankful to all the faculty and staff members, and the students of the USM Gulf Park Campus.

DEDICATION

I dedicate this dissertation to my family, who have always encouraged and supported me to achieve my goals.

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LIST OF ABBREVIATIONS

AE	Active/Passive Engagement
CR	Contingent Reward
HO	Hope
IC	Individualized Consideration
IA	Idealized Influence (Attributes)
IB	Idealized Influence (Behaviors)
IM	Inspirational Motivation
IS	Intellectual Stimulation
IT	Independent/Dependent Critical/Uncritical Thinking
LF	Laissez-Faire
MBEA	Management-by-Exception (Active)
MBEP	Management-by-Exception (Passive)
OP	Optimism
PLS-SEM	Partial Least Squares Structural Equation Modeling
PsyCap	Psychological Capital
RE	Resilience
SE	Self-Efficacy
SEM	Structural Equation Modeling
USM	The University of Southern Mississippi

CHAPTER I - INTRODUCTION

Enhancing leadership effectiveness is a strategic concern for organizations (Day, Harrison, & Halpin, 2009). However, efforts to develop leadership and enhance leadership effectiveness are often ineffective, resulting in a loss of money, time, efforts, and the opportunity to enhance performance (Fernández-Aráoz, Roscoe, & Aramaki, 2017; Gurdjian, Halbeisen, & Lane, 2014; Madanchian, Hussein, Noordin, & Taherdoost, 2017; Pfeffer, 2015; Wakefield, Abbatiello, Agarwal, Pastakia, & van Berkel, 2016). Researchers recommend including followership (Kellerman, 2012; Kelley, 1992; Meindl & Ehrlich, 1987; Shellenbarger, 2015; Uhl-Bien, Riggio, Lowe, & Carsten, 2014) and a consequence of leadership, measured in terms of followers' psychological capital (Avey, 2014; F. Luthans, Youssef, & Avolio, 2007) in the mechanism for leadership development and effectiveness. Therefore, hypothesizing followership as a predictor and psychological capital as an outcome of leadership, this study examines the relationship between followership, leadership, and psychological capital as a potential mechanism for leadership development and effectiveness.

This chapter describes how a relationship between followership, leadership, and psychological capital can serve as a mechanism for leadership development and effectiveness. This chapter establishes the background of the study, discusses the problem, significance, research questions, research objectives, and conceptual framework of the study. Assumptions, delimitations, and limitations of the study are also provided in this chapter.

Background of the Study

Leadership is a critical strategic driver of business success (Day et al., 2009; Monarth, 2015; Society for Human Resource Management [SHRM], 2017). Companies invest billions of dollars in leadership development aiming to enhance leadership effectiveness (Kellerman, 2016; O'Leonard & Loew, 2012). However, a majority of leadership development programs appear ineffective and improving the effectiveness of leadership remains a challenge (Fernández-Aráoz et al., 2017; Gurdjian et al., 2014; Madanchian et al., 2017; Pfeffer, 2015; Wakefield et al., 2016). Failing to include followership (Kaiser & Curphy, 2013; Kellerman, 2012; Kelley, 1992) and appropriate measures of leadership effectiveness (Fernández-Aráoz et al., 2017; Gurdjian et al., 2014; Kaiser & Curphy, 2013; Monarth, 2015; Oyinlade, 2006; Ready, 2015) are among the reasons for ineffective mechanisms of leadership development and effectiveness.

Leadership is an interpersonal phenomenon between leaders and followers (Hollander, 1992; Kellerman, 2012; Kelley, 1992; Meindl & Ehrlich, 1987; Shellenbarger, 2015; Uhl-Bien et al., 2014). However, the conventional approaches to understanding and developing leadership are often unidirectional, which focus only on the leader aspect and neglects the role of followership in the leadership phenomenon (Kellerman, 2012; Kelley, 1992; Meindl & Ehrlich, 1987; Shellenbarger, 2015; Uhl-Bien et al., 2014). Excessive emphasis on the leaders in the leadership phenomenon is referred to as the *romance of leadership* (Meindl, Ehrlich, & Dukerich, 1985) or *obsession with leadership* (Pfeffer & Sutton, 2006). Pfeffer and Sutton (2006) argue that excessive emphasis on the leaders and neglecting other aspects of leadership phenomenon such as followers has often been the reason for organizational failures. Effective leadership is a

result of an effective partnership between leaders and followers (Greenwald, 2008), which leads to organizational success (Williams, 2011). Therefore, efforts towards enhancing leadership effectiveness are incomplete without investigating the role of followership in the leadership phenomenon (Kellerman, 2012).

Researchers have recently begun investigating the theory of followership; however, a majority of studies convey a leader-centric or follower-centric perspective of leadership (Uhl-Bien et al., 2014), which examine followers as moderators or influenced variables in the leadership phenomenon (Sy, 2010). Uhl-Bien et al. (2014) propose using role-based and constructionist approaches to examining the followership phenomenon. The role-based approach includes reversing the lens (Shamir, 2007) and examining how followers influence leadership (Uhl-Bien et al., 2014). Constructionist approaches examine how individuals construct leadership through their relational interactions (Uhl-Bien & Ospina, 2012).

Ineffective leadership development efforts are also the result of the failure to include appropriate measures of leadership effectiveness (Fernández-Aráoz et al., 2017; Gurdjian et al., 2014; Kaiser & Curphy, 2013; Monarth, 2015; Oyinlade, 2006; Ready, 2015). Researchers and practitioners offer differing opinions regarding the measures for leadership effectiveness (Yukl, 2012). Additionally, the measures for leadership effectiveness are either poorly defined or poorly conceptualized (Oyinlade, 2006). One of the conceptualizations for the measurement of leadership effectiveness includes measuring the consequences of leadership actions for followers (Yukl, 2012). Though literature identifies various consequences of leadership actions for followers (e.g., followers' satisfaction and commitment), the science of positive psychology (Seligman &

Csikszentmihalyi, 2000) provides a new perspective to view leadership outcomes in the form of followers' positive psychological strengths and capabilities, measured as followers' psychological capital (Avey, 2014; F. Luthans, Youssef et al., 2007). Followers' psychological capital (F. Luthans, Youssef et al., 2007) has positive relationships with a variety of followers' desirable outcomes (Avey, 2014; Avey, Reichard, Luthans, & Mhatre, 2011; Karatepe & Karadas, 2014), and is an outcome of leadership actions for followers (Avey, 2014). Therefore, followers' psychological capital could serve as a promising measure of leadership effectiveness.

Psychological capital is a construct of the discipline of *positive organizational behavior* (F. Luthans, 2002a; F. Luthans, 2002b), which is an extension of positive psychology to the workplace (F. Luthans, Youssef et al., 2007; F. Luthans & Youssef-Morgan, 2017; Youssef & Luthans, 2012; Youssef-Morgan, 2014). Psychological capital represents individuals' positive psychological resources and capabilities, and serves as a foundation of their motivation, efforts, and perseverance to achieve goals (F. Luthans, Youssef et al., 2007; F. Luthans & Youssef-Morgan, 2017). *Psychological capital* is a unique, malleable, and development oriented construct that brings individuals' four positive psychological resources–hope, self-efficacy, resilience, and optimism together, and causes more statistical variances in individual and organizational outcomes than its individual components separately (F. Luthans, Youssef et al., 2007).

Based on the above argument, including followership and psychological capital in the leadership phenomenon could serve as a new mechanism for leadership development and effectiveness. The argument for the mechanism of leadership development and enhancing leadership effectiveness in respect to the relationship between followership,

leadership, and psychological capital applies in educational settings, where instructors are leaders and students are followers (Balwant, 2017; Osborne, 2011; Pounder, 2008). The benefits of psychological capital are empirically evident in educational settings. Students' psychological capital has positive relationships with a variety of desirable student outcomes, such as learning empowerment and engagement (You, 2016); school adjustment (Liu, Zhao, Tian, Zou, & Li, 2015); ability to manage time, resources, and environmental challenges (Bauman, 2014), and grade point average (GPA) and retention (B. C. Luthans, Luthans, Jensen, 2012).

Statement of Problem

Research consensus supports the strategic role of a leader in improving individual and organizational performance (Day et al., 2009; Kaiser & Curphy, 2013). Developing leadership and enhancing leadership effectiveness remains at the forefront of organizational strategic plans (Day et al., 2009; Kaiser & Curphy, 2013). However, a majority of leadership development efforts fail to succeed in their purpose, which causes a leadership crisis in many organizations (Fernández-Aráoz et al., 2017; Gurdjian et al., 2014; Kaiser & Curphy, 2013; Madanchian et al., 2017; Pfeffer, 2015; Wakefield et al., 2016).

Failure to include followership and the use of inappropriate measures of leadership effectiveness are among the reasons for ineffective leadership development efforts (Kaiser & Curphy, 2013). Leadership is an interpersonal phenomenon between leaders and followers (DeRue & Myers, 2014), yet, a majority of efforts towards understanding and developing leadership have focused only on the leader aspect and neglected the role of followership (Kellerman, 2012; Kelley, 1992; Uhl-Bien et al.,

2014). Failing to understand and include followership in leadership development results in incomplete and ineffective leadership development (Kellerman, 2012; Kelley, 1992; Uhl-Bien et al., 2014).

While measuring leadership effectiveness often measures influence of leadership behaviors on followers' outcomes (Yukl, 2012); consensus regarding the followers' outcomes that could serve as the strongest measure of leadership effectiveness is lacking. Followers' psychological capital (F. Luthans, Youssef et al., 2007), having positive relationships with a variety of desirable outcomes (e.g., citizenship behavior, psychological well-being, and job satisfaction; Avey, 2014; Avey et al., 2011; F. Luthans & Youssef-Morgan, 2017) and as an outcome of leadership (Avey, 2014), appears as a promising measure of leadership effectiveness. Therefore, the relationship between followership, leadership, and psychological capital has the potential to serve as a mechanism for leadership development and effectiveness. Failing to examine the relationship between followership, leadership, and psychological capital, organizations will lose the opportunity to save money, time, and effort in developing and enhancing leadership effectiveness along with the loss of opportunity to enhance individual and organizational performance.

Statement of Purpose

The purpose of this study is threefold. The study determined whether a relationship exists between followership, leadership, and psychological capital. The study determined whether followership influences leadership, and examined the change in psychological capital. The study determined the relationship between followership behavior(s) and leadership behavior(s) that produce the greatest positive change in

psychological capital and that have the potential to serve as a mechanism for leadership development and effectiveness.

Research Objectives

This research study addressed two research questions through a quantitative analysis of data. Does a relationship exist between followership, leadership, and psychological capital? Is there a best-fit model of the relationship between followership behaviors, leadership behaviors, and psychological capital that could serve as a mechanism for leadership development and effectiveness? To answer the research questions, the researcher investigated the following research objectives:

RO1 – Describe the age and gender of participants in the study.

RO2 – Determine the relationship between perceived leadership and self-reported psychological capital.

RO3 – Determine the relationship between self-reported followership and psychological capital.

RO4 – Determine the relationship between self-reported followership and perceived leadership.

RO5 – Determine if self-reported followership and perceived leadership together, predict self-reported psychological capital.

RO6 – Determine if perceived leadership mediates the relationship between self-reported followership and psychological capital.

RO7 – Determine the relationship between self-reported followership and perceived leadership that produces the greatest positive change in self-reported psychological capital.

Conceptual Framework

The conceptual framework of this research study demonstrates the relationship between followership, leadership, and psychological capital. This research study investigated F. Luthans, Youssef et al.'s (2007) four-factor construct of psychological capital, Avolio and Bass' (1991) full range leadership model, and Kelley's (1992) classification of followership. Figure 1 presents the conceptual framework for this study.

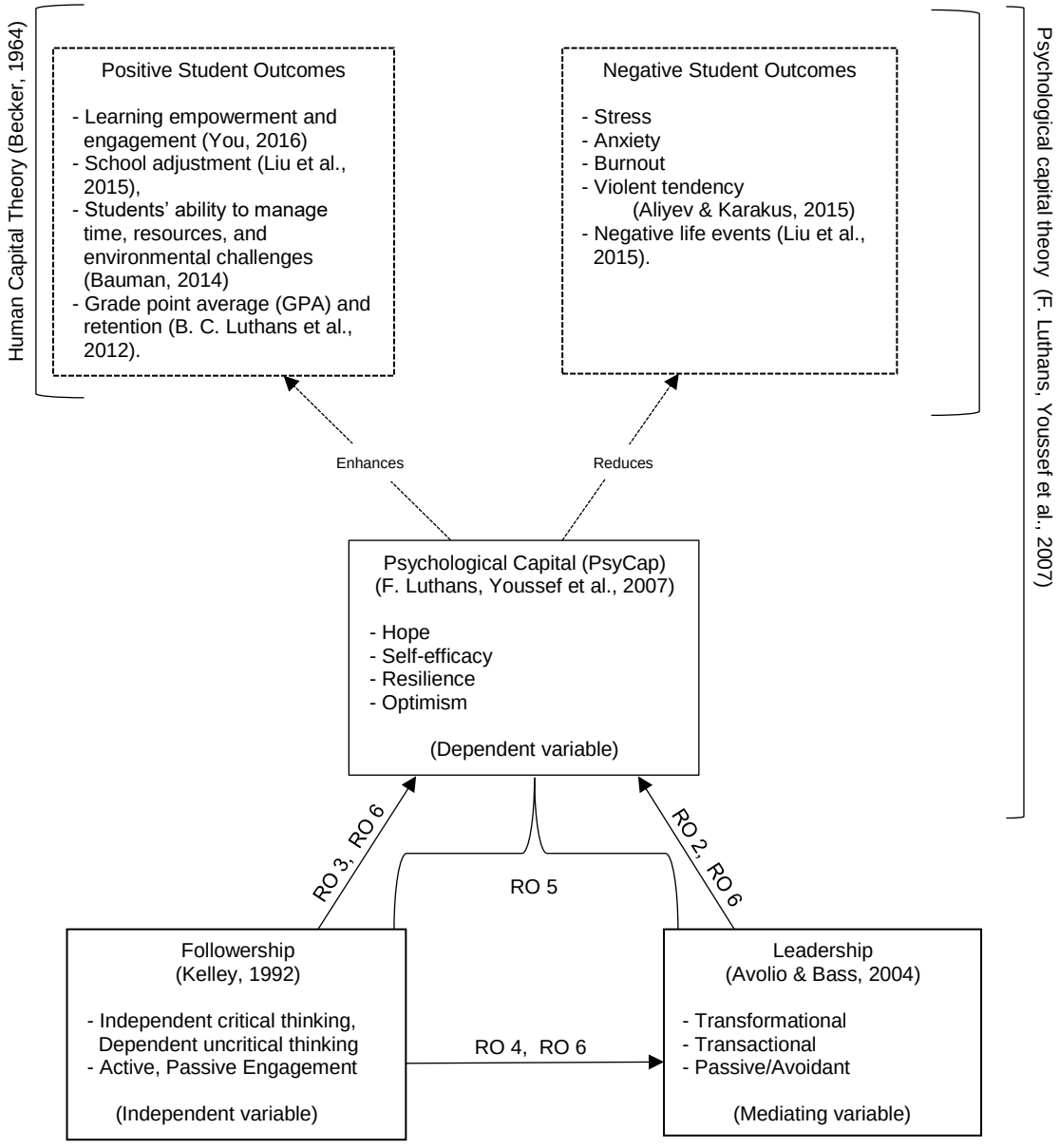

Figure 1. Conceptual framework demonstrating the relationship between student followership, instructor leadership, and students' psychological capital.

The conceptual framework of the study (see Figure 1) demonstrates the relationships between followership, leadership, psychological capital, and its outcomes. The full range leadership model (Avolio & Bass, 1991) is one of the most widely used and validated frameworks of the investigation of leader behaviors. The full range

leadership framework provides three typologies for leader behaviors: transformational, transactional, and passive/avoidant leadership (Avolio & Bass, 2004). Followership is widely examined using Kelley's (1992) classification of followership. Kelley (1992) classifies followers on the dimensions of independent/dependent, critical/uncritical thinking and active/passive engagement. The followership dimensions further produce five patterns of followership: alienated, passive, pragmatist, conformist, and exemplary (Kelley, 1992).

Uhl-Bien et al. (2014) suggest including followers either as predictor or as constructor of leadership to examine followership in leadership studies. Therefore, this study conceptualizes followership as a predictor of leadership. The literature identifies that followership has a relationship with psychological capital (Du Plessis, 2014). Therefore, the conceptual framework of this study examines followership as predictors of psychological capital.

Significance of the Study

The results of the study could provide multiple benefits to leaders, instructors, higher education institutions, and scholars of leadership, followership, and psychological capital. The results of the study provide the following benefits:

- The study fills a theoretical gap regarding the role of followership in the leadership phenomenon.
- The results of the study may guide instructors in choosing and demonstrating leadership behaviors that could enhance students' psychological capital.

- The information about students' followership behaviors and levels of psychological capital could help higher education institutions in designing training programs for instructor leadership development.
- The knowledge about the relationship between instructor leadership and students' psychological capital could help higher education institutions in developing an assessment framework for instructors.
- The information about the relationship between students' followership behaviors and psychological capital could help higher education institutions in developing students' followership behaviors to enhance their psychological capital.
- The study extends knowledge about the antecedents of psychological capital.
- Overall, the results of the study could help higher education institutions in enhancing desirable student outcomes and university competitiveness.

Delimitations of the Study

The selection of the sample delimits this study. Purposive sampling may not represent the characteristics of whole population (Kelley, Clark, Brown, & Sitzia, 2003; Trochim, 2006). The researcher collected data from a sample of students enrolled only in the Gulf Coast campuses of The University of Southern Mississippi (USM), which may not be a perfect representative of the student population of the United States. The literature argues that individual differences and demographic characteristics may have a relationship with psychological capital (Avey, 2014); however, this study does not include these attributes and focuses on the relationship between followership, leadership, and psychological capital.

Limitations of the Study

This research study has limitations that may restrict the generalizability of the results. Selecting a sample from only Gulf Coast campuses of USM may carry the effect of USM's socio-cultural environment on the participants' responses. According to Crandall (1976), self-report surveys may include self-report bias. Since this study collected data through self-report surveys, the data may include self-report biases. This research study focusses on the possible predictive relationships between the variables. The researcher cannot interpret any causal relationships between the variables. The cross-sectional survey nature (e.g., Solem, 2015) and convenience sample design (e.g., Bornstein, Jager, & Putnick, 2013) limit information about the variables. Since, this study collected cross-sectional data using a convenience sampling method; study may have prevented the researcher from attaining complete information about the variables in the study. Longitudinal, experimental, and mixed method research could provide more information about the variables in this study.

Assumptions

The researcher assumes during the study, the instructors exhibit leadership behaviors which further influence students' positive psychological resources in terms of their levels of psychological capital. The researcher also assumes that instructors and students interact and students have information about their instructors' leadership behaviors. The researcher assumes that the questionnaires selected for this study are the most commonly used, validated, and recommended measures of the variables in this study. The researcher assumes that the participants (i.e., students) responded honestly

about their instructors' leadership behaviors and their own followership behaviors and levels of psychological capital.

Definition of Terms

The purpose of providing definitions is to familiarize the reader with terms used in the study. The definitions of key terms used in this study are presented below:

1. *Alienated followers* are competent, but not actively engaged with their roles (Kelley, 1992).
2. *Conformist followers* are active, but 'yes people', who look forward to leaders' instructions (Kelley, 1992).
3. *Contingent reward* refers to leaders' behaviors to provide rewards in exchange of followers' performance (Avolio & Bass, 2004).
4. *Exemplary followers* are the ideal type of followers needed for organizational success (Kelley, 1992).
5. *Followership* is an individual's willingness (or capacity) to follow a leader (Followership, 2016).
6. *Full-range leadership model* classifies leadership behaviors into transformational leadership, transactional leadership, and passive/avoidant leadership (Avolio & Bass, 2004).
7. *Hope* builds positive motivation in an individual (Snyder, Feldman, Taylor, Schroeder, & Adams, 2000).
8. *Idealized influence* refers to leaders' behaviors "that result in their being role models for followers to emulate over time" (Avolio, 1999, p. 43).

9. *Individualized consideration* is leaders' behaviors that give individualized and specialized attention to followers' needs (Bass, 1990; Bass, 1997).
10. *Inspirational motivation* means leaders' behaviors "that motivate and inspire those around them by providing meaning and challenge to their followers' work" (Avolio, 1999, p. 45).
11. *Intellectual stimulation* is leaders' behaviors that challenge their followers to analyze and solve problems in new ways (Bass, 1990; Bass, 1997).
12. *Laissez-faire leadership* means almost no presence of leadership (Bass, 2008). The leader is almost inactive, and provides little or no direction to followers (Bass, 2008).
13. *Management-by-exception (Active)* refers to leaders' behaviors to respond quickly to correct followers' mistakes (Avolio & Bass, 2004).
14. *Management-by-exception (Passive)* represents leaders' behaviors to wait to respond until followers fail to correct their mistakes (Avolio & Bass, 2004).
15. *Optimism* is an individual's positive source of motivation (Seligman & Schulman, 1986).
16. *Passive followers* are dependent on their leaders (Kelley, 1992).
17. *Pragmatist followers* are average contributors to the organization, and prefer to achieve their own benefits (Kelley, 1992).
18. *Psychological capital* represents individuals' positive psychological strengths and capabilities consisting of their hope, self-efficacy, resilience, and optimism (F. Luthans, Youssef et al., 2007).

19. *Resilience* is an individual's ability to get better after an adverse or painful situation (Masten, Best, & Garmezy, 1990).
20. *Self-efficacy* is an individual's faith and confidence in their abilities to achieve something (Bandura, 1997).
21. *Transactional leadership* believes in the philosophy of exchange between leaders and followers (Waldman, Bass, & Yammarino, 1990). Transactional leaders reward followers when they meet the desired levels of performance (Waldman et al., 1990).
22. *Transformational leadership* is a development-oriented leadership behavior that includes exhibiting charisma while inspiring and sharing their vision with followers (Burns, 2010).

Chapter Summary

Organizations invest money, effort, and time in developing leadership and enhancing leadership effectiveness, but leadership development efforts often fail to succeed (Fernández-Aráoz et al., 2017; Kaiser & Curphy, 2013; Madanchian et al., 2017; Pfeffer, 2015; Wakefield et al., 2016). Including followership in the leadership phenomenon (Uhl-Bien et al., 2014) and followers' psychological capital as a measure of leadership effectiveness are two possible ways to address the existing problems with leadership development. Therefore, this study examined if there is a relationship between followership, leadership, and psychological capital. The study also examined if there is a best-fit model of the relationship between followership behaviors, leadership behaviors, and psychological capital, which could serve as a new mechanism for leadership

development and effectiveness. The results of the study benefit leaders and scholars of leadership.

Organization of the Study

Chapter I provided the background, problem, purpose, research questions, research objectives, and the conceptual framework of the study. Chapter I also discusses the assumptions, delimitations, and limitations in the study. Chapter II provides the review of the literature, which describes concepts, variables, and their relationships. Chapter III discusses research methodology to examine research objectives in this study. Chapter IV discusses the results of the study and Chapter V provides findings, conclusions, and recommendations.

CHAPTER II – LITERATURE REVIEW

Enhancing the effectiveness of leadership is at the forefront of organizational strategic plans. However, a majority of leadership development efforts fail to achieve their purpose. This chapter discusses leadership, leadership development, the role of followership in leadership, and an emerging outcome of leadership measured as the followers' psychological capital.

Leadership

The study of leadership is more than 100 years old. Max Weber is an early scholar, who contributed to the development of the idea of leadership (Gerth & Mills, 1958). Weber's concept of leadership primarily discusses authority, status, and legitimacy of leadership in the context of religion, politics, and military (Gerth & Mills, 1958). Today, almost every organization understands the role and importance of leaders in influencing a variety of individual and organizational outcomes. Failure of leadership also contributes to poor organizational performance (Sternberg, 2007). Therefore, companies invest heavily in developing leaders (Kellerman, 2012). Leadership development has become a business and is often referred to as the *leadership industry* (Kellerman, 2012), where training consultants offer leadership development programs.

Literature provides multiple theories and models of leadership (Ulrich, Smallwood, & Sweetman, 2008; Yarnell & Grunberg, 2017). However, no common opinion exists about leadership behaviors that have the greatest influence on individual and organizational outcomes. One reason for the lack of consensus among researchers about effective leadership is the dependency of leadership on several factors, such as leaders' characteristics, followers' characteristics, and variability of situations (e.g.,

Yarnell & Grunberg, 2017). The level of difficulty in understanding effective leadership further increases, when literature does not differentiate between the leader and leadership (Horner, 1997). According to Horner (1997), the leader is an individual, while leadership is a process of leading and influencing others' behaviors. Kellerman (2016) describes leadership as a system of leaders, followers, and contexts. According to Yukl (1994), leadership is a process of influencing followers to achieve group and organizational objectives through cooperative relationships and support within groups and organization. Kouzes and Posner (2012) argue the best leaders "model the way, inspire a shared vision, challenge the process, enable other to act, and encourage the heart" (p. 3).

According to Van Vugt (2006), though empirical studies about the evolution of human leadership are not available, scholars provide some idea of how the concept of leadership evolved over time. Therefore, uncertainty exists among scholars in defining leadership (Furnham, 2005); consequently, researchers provide multiple theories and opinions about the leader and leadership. The literature describes leadership with multiple perspectives of the leadership phenomenon, including leaders' characteristics and behaviors, situations, and the interactions and relationships between leaders and followers (Wang, Sui, Luthans, Wang, & Wu, 2014). Too many theories and models of leadership often make it difficult for leaders to choose and demonstrate leadership behaviors that could benefit organizations. Therefore, despite extensive research on leadership, a gap regarding leadership behaviors and the greatest influence on the individual and organizational outcomes exists in the literature (Jing & Avery, 2008). Referring to research on leadership, Bennis and Nanus (2003) argue,

> Decades of academic analysis have given us more than 850 definitions of leadership. Literally thousands of empirical investigations of leaders have been conducted in the last seventy-five years alone, but no clear and unequivocal understanding exists as to what distinguishes leaders from nonleaders, and perhaps more important, what distinguishes *effective* leaders from *ineffective* leaders. (p. 4)

Full Range Leadership Model

The full range leadership model is among the most widely used models of leadership, which examines a spectrum of leadership behaviors and its effectiveness (Avolio, 2011; Avolio & Bass, 1991; Pounder, 2008). The full range leadership model is based on the idea that leaders display a combination of leadership behaviors (Avolio, 2011; Avolio & Bass, 1991). The full range leadership model explains leadership behaviors on a continuum ranging from highly active behaviors to highly passive behaviors (Avolio, 2011; Avolio & Bass, 1991). Organizations widely use the full range leadership model for leadership training and development programs (Dóci, Stouten, & Hofmans, 2015). Antonakis and House (2013) "refer to the 'model' as a theory, because it reflects the explanation of a phenomenon, and has a structural framework and measurement model that is empirically testable." (p. 28). The full range leadership model measures transformational, transactional, and passive/avoidant leadership behaviors (Avolio & Bass, 2004).

Transformational Leadership. Transformational leadership is based on the research conducted by Burns (1978). Transformational leaders raise followers' values and emotions, which further help in transforming organizations (House & Shamir, 1993;

Yukl, 2010). Transformational leadership is the most active leadership behavior, which inspires followers (Avolio, 2011; Avolio & Bass, 2004), and enhances followers' psychological well-being and trust in leaders (Kelloway, Turner, Barling, & Loughlin, 2012). Every follower is important for transformational leaders (House & Aditya, 1997). Transformational leaders gain followers' commitment and create a vision, which further transforms the organization (Burns, 2003). The dimensions of transformational leadership include idealized influence (attributes), idealized influence (behaviors), inspirational motivation, intellectual stimulation, and individualized consideration (Avolio & Bass, 2004). *Idealized influence* refers to leaders' behaviors "that result in their being role models for followers to emulate over time" (Avolio, 1999, p. 43). *Inspirational motivation* means leaders' behaviors "that motivate and inspire those around them by providing meaning and challenge to their followers' work" (Avolio, 1999, p. 45). *Intellectual stimulation* is leaders' behaviors that challenge their followers to analyze and solve problems in new ways (Bass, 1990; Bass, 1997). *Individualized consideration* is leaders' behaviors, which give individualized and specialized attention to followers' needs (Bass, 1990; Bass, 1997).

Transactional Leadership. Transactional leadership performs on the principle of exchange between leaders and followers (Yukl, 2010). Transactional leaders motivate followers through an exchange of benefits (House & Shamir, 1993; Yukl, 2010). Transactional leaders set work standards for followers, and reward and recognize followers for good performance (Bass, 1985; Avolio & Bass, 2004). According to Avolio (1999), "Transactional leaders offer inducements to move in the direction desired by the leaders, which often is a direction that would also satisfy the self-interests of the

followers" (p. 35). Transactional leadership behavior is comparatively less active, but frequently demonstrated by leaders (Avolio, 2011; Avolio & Bass, 2004). The dimensions of transactional leadership are contingent reward and management-by-exception (active) (Avolio & Bass, 2004). *Contingent reward* refers to leaders' behaviors to provide rewards in exchange for followers' performance (Avolio & Bass, 2004). *Management-by-exception (active)* refers to leaders' behaviors to respond quickly to correct followers' mistake (Avolio & Bass, 2004).

Passive/Avoidant Leadership. Passive/avoidant leadership includes no active participation in setting goals for followers (Avolio & Bass, 2004). The dimensions of passive/avoidant leadership are management-by-exception (passive) and laissez-faire (Avolio & Bass, 2004). *Management-by-exception (passive)* represents leaders' behaviors to wait to respond until followers fail to correct mistakes (Avolio & Bass, 2004). *Laissez-faire leadership* is the most passive leadership behavior (Avolio, 2011; Avolio & Bass, 2004). According to Antonakis, Avolio, and Sivasubramaniam (2003), "Laissez-faire leadership represents the absence of a transaction of sorts with respect to leadership in which the leader avoids making decisions, abdicates responsibility, and does not use their authority" (p. 265).

Instructor Leadership

Teachers and interactions between teachers and students is an important factor of student success (Flaherty, 2016; Hagenaue & Volet, 2014). A recently developed Gallup-Purdue index presents *"Big Six" college experiences linked to life preparedness* (Seymour & Lopez, 2015). The *"Big Six" college experiences linked to life preparedness* are related to students' long-term life outcomes, preparedness to lead well

for life and chances of receiving degrees on time (Seymour & Lopez, 2015). Faculty care and support, faculty-student relationship and its influence on students' outcomes are among the indicators of *"Big Six" college experiences* (Seymour & Lopez, 2015).

Stein (2010) argues that the role of teachers is not limited to teaching. Teachers should support and motivate students to achieve mastery of the subjects (Stein, 2010). In their roles of developing students, teachers must demonstrate leadership behaviors to bring changes in their students (Stein, 2010). In an interview conducted with Anding (2005), Robert E. Quinn argues, teachers have the ability to engage and transform students from a low performing student to a high performing student.

Wentzel (2009) describes how teacher-student interactions and relationships enhance student motivation and performance. Wentzel (2009) argues that teachers create classroom environments, where they have distinctive relationships with their students. Wentzel (2009) summarizes a teacher's role in three categories: teacher communication and expectations, willingness to provide help, advice, and instruction, and emotional support and safety. Yacapsin (2006) argues, "At best, teaching is an art. At worst, it is a profession" (p. 8). Stein (2010) argues that teachers often serve as role models for students. Students continually observe teachers' behaviors (Stein, 2010). Therefore, teachers need to demonstrate the best of their personal and professional behaviors through attire, language, professional ethics, and attitudes (Stein, 2010).

In order to develop students' behaviors and enhance student outcomes, teachers guide, motivate, plan, and strategize for courses and for students (Balwant, 2017). In fact, teachers perform all the roles that a leader performs in an organizational setting (Balwant, 2017). Explaining leadership of instructors, Yacapsin (2006) argues,

> By virtue of actions taken and behaviors displayed, instructors are leaders in a classroom. They influence what occurs, what is covered, the format for learning, the climate for learning, and perhaps, to a degree yet unresolved, the extent of the learning by individual students. (p. 4)

The classroom is an example of a *quasi-organization*, where teachers are leaders and students are followers (Balwant, 2017; Pounder, 2008; Osborne, 2011). However, most teachers are uncomfortable in accepting themselves as leaders (Bredfeldt, 2006). The investigation of teacher leadership began with roles of improving colleges (Little, 2003) and college administration (Silva, Gimbert, & Nolan, 2000).

Silva et al. (2000) describe three waves of teacher leadership. The first wave of teacher leadership includes more of the administrative aspect of the college (Silva et al., 2000). The second wave includes more of the instructional leadership (Silva et al., 2000). The third wave describes teacher leadership as a process-oriented phenomenon, which includes developing colleagues and teams in the colleges (Silva et al., 2000). Pounder (2006) extends the concept and argues including transformational classroom leadership as the fourth wave of the teacher leadership. According to Greenier and Whitehead (2016), "currently the concept of classroom leadership is not at the forefront of teachers' conscious thought, but is, to some extent, embedded in various teaching practices and characteristics" (p. 79). Though there is a common opinion that instructors should be an expert in subject and pedagogy, very few researchers realize the role of instructors as leader and motivator of students to improve desirable student outcomes (Stein, 2010). Instructor leadership affects a variety of student outcomes (Pounder, 2008).

Investigation of instructor leadership recently emerged in the literature. A majority of the studies investigating instructor leadership borrowed leadership concepts from other settings (i.e., organizational studies and military), and examined it in the academic and classroom environment (Castle, 2001). However, the instructor-student relationships are different from the supervisor-employee relationships in organizational settings (Balwant, 2016; Balwant, 2017). The instructor-student relationships are relatively distant and temporary in nature (Balwant, 2016; Balwant, 2017). Literature defines teachers' leadership roles towards students with different labels, such as teachers' leadership, instructors' leadership (Balwant, 2017), instructor leadership (Balwant, 2016), and classroom leadership (Pounder, 2008). Balwant (2017) defines instructor leadership as a "process whereby instructors exert intentional influence over students to guide, structure and facilitate classroom activities and relationships in a class" (p. 577).

Harrison (2011) emphasizes instructor transformational leadership behaviors. According to Harrison (2011), "instructor transformational leadership behaviors are a more significant predictor of cognitive learning, affective learning, perceptions of instructor credibility, and communication satisfaction than instructor transactional leadership behaviors" (p. 91). The study by Bolkan and Goodboy (2009) finds a relationship between instructor-transformational leadership, student learning outcomes, student participation, and perceived credibility of instructors. Pounder (2008) argues that transformational instructor leadership has a relationship with instructor leadership effectiveness and student satisfaction. Greenier and Whitehead (2016) emphasize authentic leadership in the classroom and associate it with teaching effectiveness.

Stein (2010) argues, “Leadership is an art that does not come either naturally or easily to most individuals” (p. 84). Additionally, people characteristics and experiences, situations, college cultures, and students’ characteristics may affect instructors’ behaviors. Therefore, there is a need to conduct separate studies on instructor leadership to examine the instructor leadership behaviors that could positively affect students’ behaviors and outcomes.

Leadership Development and Leadership Effectiveness

Since leadership is a driver of individual, group, and organizational performance, developing leadership abilities and enhancing the effectiveness of leadership is a prime concern for every organization (Day, Fleenor, Atwater, Sturm, & McKee, 2014; DeRue & Myers, 2014). Leadership development is a study discipline (Day et al., 2014; Day & Dragoni, 2015). Using quantitative and qualitative methods, researchers within the discipline of leadership development examine theories and models and focus on developing scientific ways to develop leadership and enhance leadership effectiveness (Day et al., 2014). However, the discipline of leadership development is still in its emerging phase (Day et al., 2014). Researchers do not agree on one theory for leadership development (Day, 2014).

The literature classifies leadership development into categories (Day, 2000; Day et al., 2014; DeRue & Myers, 2014). The intra personal aspect of leadership focuses on leader development; while interpersonal aspect focuses on leadership development (Day et al., 2014; DeRue & Myers, 2014). The leader development includes developing individual skills, knowledge, and capabilities necessary for an effective leader (Day et al., 2014; DeRue & Myers, 2014). The leadership development examines interpersonal

aspect and process of leadership, which includes interactive effects of the actors in leadership (i.e., leaders and followers; Day et al., 2014; DeRue & Myers, 2014). Failure to differentiate between leader development and leadership development has often been a reason for the failure of leadership development efforts.

Similarly, authors do not offer consensus about the conceptualization and measure of leadership effectiveness (DeRue, Nahrgang, Wellman, & Humphrey, 2011). Leadership effectiveness has been presented in different ways in the literature. DeRue et al. (2011) present a three dimension criteria for leadership effectiveness, including content, level of analysis, and target of evaluation. The content criteria include task performance, affective and relational content, and overall judgments of the effectiveness of leaders (DeRue et al., 2011). The level of analysis criteria include the levels (i.e., individual, dyadic, group, or organizational level) at which the effectiveness is conceptualized and measured (DeRue et al., 2011). The target of evaluation criteria of leadership effectiveness defines who or what is being evaluated, the leader (e.g., the effectiveness of leader) or the outcome of leadership (e.g., individual or group performance) (DeRue et al., 2011). According to Yukl (2006), the measurement of leadership effectiveness should include a combination of leadership effectiveness criteria.

One of the most commonly used criteria of leadership effectiveness includes measuring the outcomes of leaders' behaviors (e.g., Hogan, Curphy, & Hogan, 1994; Yukl, 2006). Research empirically demonstrates that leadership behavior is a predictor of leadership effectiveness (Judge & Piccolo, 2004; Judge, Piccolo, & Ilies, 2004). Therefore, researchers examine the influence of leadership behaviors on the followers' outcomes as a measure of leadership effectiveness (DeRue et al., 2011). However, a

majority of studies focus on a single leadership behavior (DeRue et al., 2011). Additionally, literature provides differing opinions regarding the consequences of leadership on followers' outcomes.

Leaders demonstrate multiple leadership behaviors (Avolio, 2011), which may have different influences on followers' outcomes. Moreover, leadership behavior appropriate for one follower may not be effective for other followers. Therefore, it is necessary to examine the interactive effect between leadership behaviors and followership behaviors (e.g., Day et al., 2014) to find the most effective relationship pattern of behaviors between leaders and followers that results in the greatest followers' positive outcomes.

Followership

According to Kelley (1992), followers contribute 80% to an organization's success, while the contribution of leaders totals only 20%. However, leadership literature mainly focuses on the leader, and neglects the role of followers and followership in the leadership phenomenon (Avolio, Walumbwa, & Weber, 2009; Baker, 2007; Williams, 2011). Studies on leadership often negatively address followers and followership (Oc & Bashshur, 2013; Raffo, 2013). A majority of the literature on leadership defines followers either as passive or as recipients of the leaders' influence (Hollander, 1992; Oc & Bashshur, 2013) it does not include the study of followership as a part of the leadership phenomenon. Studies on leadership emphasize developing leaders and present a heroic stereotype of leaders (Meindl & Ehrlich, 1987). According to Raffo (2013), "Our society incorrectly stereotypes followers in a condescending manner as docile, passive, obedient, conformists, indifferent, weak, dependent, unthinking, failures, and helpless" (p. 263).

Sociological situations also sometimes make scholars uncomfortable in thinking about a follower's role in developing leaders (Chaleff, 2001).

Though both poor leadership and poor followership can cause poor organizational and team functioning, researchers have not investigated followership as much as the concept of leadership (Williams, 2011). Like effective and ineffective leaders, there are effective and ineffective followers (Kelley, 1992). The literature should not always blame the leadership for poor organizational and team performance (Williams, 2011). According to Avolio (1999), "Being a passive and dependent follower is completely inadequate" (p. 4). Referring to the concept of intelligent disobedience, Chaleff (2015) argues that simply following orders may lead to problems and chaos in an organization. Followers need to have the courage to voice against inappropriate orders and decisions of their leaders (Chaleff, 2015).

According to Mary Parker Follett (1949/1987), leadership is a reciprocal phenomenon between leaders and followers. Zaleznik (1965) also emphasizes the importance of both sides (i.e., leaders and followers) of the leadership process. In fact, followers are constructors of leadership (Dansereau, Yammarino, & Markham, 1995). Zaleznik (1965) argues that too much control and willingness to control others may create problems. Greenwald (2008) asserts, "effective leadership requires partnership between leaders and followers" (p. 226). The leadership and followership should move together to achieve organizational success (Williams, 2011). According to DeRue and Ashford (2010), leadership and followership is a claiming-granting process, and "Through this claiming-granting process, individuals internalize an identity as leader or follower" (p. 627). In McGregor's (1960) theory of motivation, theory X assumes that

people dislike work and must be controlled and directed, while theory Y believes in the integration of goals, and emphasizes developing people to take responsibility. Leaders decisions of choosing between theory X and theory Y depends on the situational characteristics (Arslan & Staub, 2013; McGregor, 1960). Theory X may not be effective in the situations where theory Y works well (Arslan & Staub, 2013; McGregor, 1960).

The power within the organizations is shifting from top to bottom (Kellerman, 2016) along with the nature of dominance between the leaders and the followers (Kellerman, 2012). Organizations adapt flat structures and remove hierarchies, where followers have more independence and scope to contribute to their teams and organizational goals (Kellerman, 2012). However, the literature often refers to leadership as an individual phenomenon. Kellerman (2008) argues that investigating and conceptualizing leadership without the study of followership provides misleading information. Avolio (1999) argues, "I consider the best followers my heroes. They have helped me fly much higher in my work as a consequence of their efforts, and that represents one basic aspect of my philosophy of leadership" (p. 4).

According to Chaleff (2001), traditional theories on leadership emphasize leader-follower relationships; however; follower-leader relationships are also possible. Follower-leader relationships occur when seniors begin to follow their active and dedicated followers (Chaleff, 2001). Chaleff (2001) describes two roles of managers. One, when leaders demonstrate their rights and authority, and two, when leaders follow their followers (Chaleff, 2001). The literature emphasizes developing leaders' qualities to control and direct followers, but no emphasis on the leaders to follow their followers (Chaleff, 2001). Chaleff (2003) argues that leaders should have the

courage to listen to their followers. Therefore, Chaleff (2001) emphasizes the need to train leaders to follow their followers.

Though the concept of followership is not new, researchers have recently begun examining followership in the leadership phenomenon (Kellerman, 2008). There is still a need for empirical evidence to establish the theory and understanding about followership (Luo, Liu, & Zhang, 2016). Followership is different from following, which is not just obeying authority (Cox, Plagens, & Sylla, 2010). Following is an influence and reaction to the actions of leaders, while followership develops through interactions (Cox et al., 2010). According to Williams and Strong (2014), "Followership is a complex phenomenon, which has multiple definitions" (p. 215). Blackshear (2004) suggests that scholars can explain followership using the literature from the military, religion, politics, and sports. According to Carsten and Uhl-Bien (2015), "Followership is defined as the beliefs, characteristics, and behaviors that followers bring to the leadership relationship and how they affect leadership and organizational outcomes" (p. 1). Understanding followership could improve the knowledge and effectiveness of leadership (Chaleff, 2009; Kellerman, 2007). In order to enhance understanding about followers and followership, the literature provides types of followers and differentiates between effective and non-effective followers.

Types of Followers

Pigors (1934) explains four types of followers: constructive followers, routine followers, impulsive followers, and subversive followers. *Constructive followers* are committed to work and take responsibility to improve organizations (Pigors, 1934). *Routine followers* are intellectual and committed to work, but less than constructive

followers (Pigors, 1934). *Impulsive followers* are emotional, and work only in situations when they have personal relationships with their leaders (Pigors, 1934). *Impulsive followers* are typically not committed to work (Pigors, 1934). *Subversive followers* have their own interest, and the leader is only a source of achieving their objectives (Pigors, 1934).

Zaleznik (1965) classifies subordinates on the dimensions of active versus passive behavior and dominance versus submission. Similar to followership, Zaleznik's (1965) study informs business organizations about the subordinates and their styles of working. *Impulsive subordinates* are often courageous and prefer to lead rather than being led by somebody. *Compulsive subordinates* try to dominate their leaders; however, they later feel bad for their behaviors. *Masochistic behavior* of subordinacy demonstrates individuals' willingness to be controlled by leaders. Individuals with a *withdrawn pattern* of subordinacy are not active in organizational activities, and perform as necessary for them to stay with the organization.

Kelley's (1992) study of followership recommends removing hierarchical differences between leaders and followers. Kelley (1992) describes followership on the two dimensions of independent, critical thinking versus dependent, uncritical thinking and active versus passive engagement. Kelley (1992) further explains that both the dimensions (i.e., critical thinking and engagement) interact and produce five styles of followership: alienated, passive, pragmatist, conformist, and exemplary. *Alienated followers* are comparatively less engaged, and tend to withdraw from organizational responsibilities. *Alienated followers* are not committed to leaders. However, because of their independent thinking styles, alienated followers critically evaluate organizations.

Passive followers perform with others' directions. *Passive followers* are not engaged in organizational activities. *Passive followers* perform only when they receive instructions from leaders. *Conformist followers* are comparatively more engaged than passive followers are; however, they do not criticize and challenge their organizations. *Conformist followers* demonstrate needs to develop their cognitive skills and self-confidence. *Pragmatist followers* are almost in the middle of both the dimensions of followership. *Pragmatist followers* act and think; however, they do not influence organizational activities. *Exemplary followers* are an ideal asset to any organization. *Exemplary followers* have higher levels of engagement and think critically about organizational benefits.

Chaleff (2003) advocates diluting hierarchical differences between leaders and followers, and emphasize the followers' role in developing leadership. Chaleff (2003) explains four types of followership styles on the dimensions of followers' support and challenge to leaders. The *implementers* are high on support and low on challenge to their leaders. The *implementers* concentrate on their work and do not need explanations. The *partners* are high on challenge and support to their leaders. The *partners* question their leaders about policies and practices, but they are dependable and work well with leaders. The *individualists* are low on support and high on challenge to their leaders. *Individualists* are a critic of the systems and organizational practices. The *resource* types of followers are low on support and low on challenge to their leaders. The *resource* followers are hard workers and do not set priorities for themselves in the system. Chaleff (2003) asserts that courageous followers challenge their leaders, take responsibility, and become the part of organizational transformation.

Kellerman (2008) classifies followers on their levels of engagement. Kellerman's (2008) classification of followers has more influence from the field of political science than organizational studies. Kellerman (2008) explains five types of followers: isolates, bystanders, participants, activists, and diehards. *Isolates* are detached and do not care about leaders and their ideas. *Bystanders* are only observers and do not participate in group and organizational activities. *Bystanders* remain neutral during organizational activities. *Participants* are engaged up to a certain extent and demonstrate their willingness to perform for their leaders and the organizations. *Activists* are energetic and strongly related to their leaders. *Activists* are good promoters of change and support their leaders during organizational transformation. *Diehards* are devoted to their leaders. *Diehards* always demonstrate their willingness to take responsibility.

Rosenbach, Pittman, and Potter's (2012) model of followership classifies followers on two dimensions of *performance initiatives* and *relationship initiatives*. Rosenbach et al. (2012) describe four types of followers: subordinate, contributor, politician, and partner. *Subordinates* follow their leaders' instructions. *Subordinates* perform satisfactorily but are not committed to providing excellent performance. *Contributors* are hardworking and perform in exemplary ways. However, *contributors* do not understand leaders' perspective and vision and seek leaders' directions. *Contributors* also do not take initiatives. *Politicians* are efficient in managing interpersonal relationships, provide good feedback, but do not perform adequately. *Partners* are committed to organizational purpose, performance, and builds relationships.

Blackshear (2004) provides a followership continuum explaining the dynamic nature of individuals' performance. According to Blackshear (2004), individuals'

performance changes with change in situations and leaders. Organizations can use a followership continuum to assess followers' output and contribution to work (Blackshear, 2004). Blackshear (2004) describes five steps of followers' development. Stage 1 begins, when an individual joins the organization and becomes the *employee*. After becoming an *employee*, the individual begins performing organizational duties in lieu of some compensation. Stage 2 is *committed followership* in which the employee becomes a part of the organizational mission and purpose. Stage 3 is *engaged followership*, which describes followers' active engagement in organizational mission and purpose. Stage 4 is *effective followership* where followers demonstrate their capabilities and dependability in the organization. Stage 5 is *exemplary followership* where followers become self-leaders, and support their leaders.

Followership and Workplace Outcomes

The literature provides empirical evidence about the relationship between followership and workplace outcomes. Favara (2009) examines the relationship between employees' followership styles, job satisfaction, and job performance in an engineering and manufacturing company. Favara (2009) found a significant positive relationship between employees' followership styles, their job satisfaction, and job performance. Gatti, Ghislieri, and Cortese (2017) examined nurses' followership behaviors with job satisfaction. The study by Gatti et al. (2017) finds that nurses' active engagement behaviors influence their job satisfaction, but there is no relationship between nurses' independent critical thinking and job satisfaction. Novikov (2016) examines the relationship of employees' followership with individual job performance and work group performance. The study by Novikov (2016) finds a correlation between employees'

levels of active engagement and their individual and work group performance. However, there was no relationship between employees' critical thinking and job performance (Novikov, 2016).

Blanchard, Welbourne, Gilmore, and Bullock (2009) examined the relationship between employees' followership, job satisfaction, and organizational commitment. Blanchard et al. (2009) find a positive relationship between employees' active engagement and their job satisfaction and organizational commitment. There was a negative relationship between employees' independent critical thinking and their organizational commitment and extrinsic job satisfaction (Blanchard et al., 2009). Though the investigation of followership has significantly increased in recent years, there is a need to examine followership behaviors in a variety of samples in different cultures (Blanchard et al., 2009; Novikov, 2016). Researchers also recommend examining followership behaviors other than the classification of followership developed by Kelley (1992) (e.g., Blanchard et al., 2009; Novikov, 2016).

Student Followership

Though the concept of followership applies to students in academic settings, very few studies examine student followership (Williams & Strong, 2014). Student followership has a relationship with students' risk-taking attitudes, perceptions (Goodman, 2015), self-directed learning (Williams & Strong, 2014), and psychological capital (Du Plessis, 2014). Literature suggests that the information about student followership could help instructor leaders in developing effective student followers, which could further improve students' learning outcomes (Strong & Williams, 2014; Williams & Strong, 2014). Knowledge about student followership could help instructors

in becoming effective leaders and teachers (Williams & Strong, 2014), which could further enhance desirable student outcomes.

Additionally, the concept of student followership connects with the philosophy of a student-centered approach to learning, where instructors develop classroom-learning strategies after learning about their students. In fact, in some way, the students become teachers in the student-centered approach to learning. Referring to the roles of teachers and students, Towns (1993) argue,

> when students take on the teachers role, they help themselves as well. They take charge of their learning and come into the center of the class, rather than hovering on their traditional place on the outside, on the fringes, on the margin. (p. 100)

In addition, the investigation of followership using Kelley's (1992) model an academic setting not only provides the information about the student followership, but also about two critical aspects (i.e., critical thinking and engagement) of student success. Every instructor wants their students to be a critical thinker (Myers & Dyer, 2006), which not only helps students in succeeding in college but also in other phases of their life. Student engagement enhances students' academic performance (Siu, Bakker, & Jiang, 2014), and is an embedded characteristic of education (Coates & Mahat, 2014). Student engagement also provides evidence about the quality of education (You, 2016). Therefore, understanding student followership not only helps instructors in developing effective instructor leadership (Williams & Strong, 2014) but also in enhancing desirable student outcomes.

The Science of Positive Psychology

The application of positive psychology in organizational (F. Luthans, Youssef et al., 2007) and educational settings (e.g., B. C. Luthans et al., 2012; Jafri, 2013) is a new perspective that focuses on developing human strengths rather than weaknesses, and promotes optimal functioning and flourishing (Seligman & Csikszentmihalyi, 2000). Although the study of positivity is not new in the literature, researchers have recently begun examining different aspects of the workplace and education with a lens of positive psychology. According to Seligman and Csikszentmihalyi (2000),

> positive psychology does not rely on wishful thinking, faith, self-deception, fads, or hand waving; it tries to adapt what is best in the scientific method to the unique problems that human behavior presents to those who wish to understand it in all its complexity. (p. 7)

According to Seligman and Csikszentmihalyi (2000), "Before World War II, psychology had three distinct missions: curing mental illness, making the lives of all people more productive and fulfilling, and identifying and nurturing high talent" (p. 6). However, after World War II, the field of psychology became more of a study of pathology, following a disease model of human functioning, curing mental illness, and damages (Seligman & Csikszentmihalyi, 2000). Though humanistic psychologists brought a new perspective to the study of psychology, they could not advance the idea due to the lack of empirical evidence (Seligman & Csikszentmihalyi, 2000).

Positive psychology is an empirical-scientific study that examines, discovers, and nurtures human potential to thrive (Seligman & Csikszentmihalyi, 2000). According to B. C. Luthans, Luthans, and Avey (2014),

> Work in the area of positive psychology has sought to shift the predominant focus of research in the field of psychology away from what is 'wrong' with people and direct it toward the positive qualities and traits of individuals, or what is 'right' with people. (p. 192)

Positive psychology does not ignore negatives, rather compliments the traditional study of psychology (Seligman & Csikszentmihalyi, 2000). The science of positive psychology shifts the focus from studying mental illness to developing human strengths to prosper (Seligman & Csikszentmihalyi, 2000), manage weaknesses (Lopez & Snyder, 2003), and "provides a framework for focusing on and enhancing individual, group, and institutional well-being" (Wade, Marks, & Hetzel, 2015, p. x). According to Seligman and Csikszentmihalyi (2000), positive psychology "is about identifying and nurturing their strongest qualities, what they own and are best at, and helping them find niches in which they can best live out these strengths" (p. 6). People's strengths help them flourish in their life (Schreiner, 2015). Schreiner (2015) argues, "Flourishing people have high levels of emotional, psychological, and social wellbeing. They are very engaged and have strong sense of purpose" (p. 42).

The field of positive psychology, initiated by Seligman's (1998) presidential address to the American Psychological Association, and further popularized by Seligman and Csikszentmihalyi (2000) and Peterson (2006), promotes developing virtues and strengths to enhance individual happiness and well-being (Linley, Joseph, Harrington, & Wood, 2006). Seligman (2002) explains three foundation pillars of positive psychology: positive emotion, positive traits, and positive institutions. Researchers have developed a

variety of concepts and constructs within positive psychology; among those concepts is psychological capital.

Psychological Capital

Drawn from the movement of positive psychology, the field of positive organizational behavior (POB; F. Luthans, 2002b) was developed in organizational settings. According to F. Luthans (2002b), POB is a "study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace" (p. 59). The construct of POB should be research-based, measureable, development-oriented, and should have the ability to predict individual and organizational performance (Avey, 2014; F. Luthans, 2002a; F. Luthans, 2002b; F. Luthans, Youssef et al., 2007). Researchers examine various positive concepts and constructs, such as justice, job satisfaction, commitment, and organizational citizenship behavior (Youssef & Luthans, 2007). After examining a variety of positive concepts and constructs, hope, self-efficacy, resilience, and optimism eventually met POB's inclusive criteria of positivity in the workplace (F. Luthans, Youssef et al., 2007; F. Luthans & Youssef, 2004; Youssef & Luthans, 2007). The four factors of hope, self-efficacy, resilience, and optimism were further combined and referred to as psychological capital, or simply PsyCap (F. Luthans, Youssef et al., 2007; F. Luthans & Youssef, 2004). F. Luthans, Youssef et al. (2007) define *psychological capital* as,

> An individual's positive psychological state of development characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making positive attribution (optimism) about

> succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success. (p. 3)

In an organizational perspective, traditional economic capital refers to *what you have*, human capital–*what you know*, and social capital–*who you know*, but the "psychological capital lies beyond human and social capital and basically consists of 'who you are' rather than what or who you know" (F. Luthans, Luthans, & Luthans, 2004, p. 46). The concept of psychological capital represents HERO (i.e., abbreviated with the first letters of the hope, self-efficacy, resilience, and optimism) within individuals (F. Luthans, Youssef et al., 2007).

Constructs of Psychological Capital

The concept of psychological capital represents individuals' hope, self-efficacy, resilience, and optimism (F. Luthans, Youssef et al., 2007). The components of psychological capital have been drawn from the established theories of hope, self-efficacy, resilience, and optimism (F. Luthans, Youssef et al., 2007). Each factor of psychological capital "adds unique variance and becomes additive to PsyCap overall" (F. Luthans, Youssef et al., 2007, p. 19).

Hope. According to Snyder et al. (2000), hope builds positive motivation within individuals. Hope develops with a successful interaction between goal-directed energy and planning to meet goals (Snyder, Irving, & Anderson, 1991). Snyder et al. (1991) describe hope as, "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet

goals)" (p. 287). According to Snyder (1994), "Hope is the sum of the mental willpower and waypower that you have for your goals" (p. 5). The willpower (goal-directed energy) develops commitment towards the achievement of goals, and waypower helps in removing obstacles to reach goals (Youssef & Luthans, 2007). Individuals' hopes have positive relationships with their outcomes (Youssef & Luthans, 2005). People with high hope think independently and find paths to overcome challenges (Snyder, 2002). Hope is a development-oriented construct, and thereby meets inclusive criteria of POB (Youssef & Luthans, 2007). Averill, Catlin, and Chon (1990) refer to hope as the *life blood of the soul*.

Self-efficacy. The social cognitive theory provides the conceptual foundation for efficacy (Bandura, 1997). Self-efficacy is an individual's faith and confidence in self-abilities to achieve something (Bandura, 1997), and to plan and execute activities to achieve goals (Stajkovic & Luthans, 1998). The concept of efficacy helps in describing individuals' perceptions about events in their life (Youssef & Luthans, 2007). Self-efficacy has a positive relationship with individual outcomes (Youssef & Luthans, 2007).

Resilience. Resilience is an individual's ability to recover from an adverse or painful situation (Masten et al., 1990). Individuals with high resiliency not only recover faster after sad events but also learn to achieve personal goals in life (Youssef & Luthans, 2007). Resilience includes moving from the negative (during setbacks) to positive (recovery) aspects of life (Youssef & Luthans, 2007). Contrary to early theories describing individuals' resilience as a fixed trait (Masten & Garmezy, 1985), researchers now believe that individuals' resilience can be developed (Stephens, 2013). Masten (2001), one of the most cited scholars on resilience, suggests that, from the organizational

perspective, developing individuals' abilities in understanding risks, strengths, and process to achieve targets in the organization could enhance levels of resilience. According to Tugade and Fredrickson (2004), "resilient people use positive emotions to rebound from, and find positive meaning in, stressful encounters" (p. 4). The broaden-and-build theory explains individuals' positive emotions grow and help in coping with stressful situations (Fredrickson, 1998; Fredrickson, 2001).

Optimism. Optimism is a positive source of motivation for an individual (Seligman & Schulman, 1986). Seligman (1998) defines optimism as an attribution process that guides individuals in developing positive thinking and analyzing personal events and causes. Pessimism is opposite of optimism, where individuals' negative thinking and analysis of events and situations drives actions (Seligman, 1998). People can measure and develop levels of optimism (Seligman, 1998). Learning optimism helps in planning and achieving objectives in life (Youssef & Luthans, 2007). Optimistic people are motivated and continue to perform during challenges (Scheirer & Carver, 1985; Seligman, 1998).

Psychological Capital and Workplace Outcomes

Studies conducted with a variety of samples in different cultures provide evidence about the positive influences of psychological capital on desirable employee attitudes, behaviors, and performance, and negative influences on undesirable employee attitudes, behaviors, and performance. According to Avey et al. (2011), employees with higher levels of psychological capital are more optimistic about the future and develop ways to achieve personal goals in the workplace. F. Luthans, Avolio, Avey, and Norman (2007) argue that higher levels of psychological capital enhance employees' motivation to apply

the best of their efforts to achieve goals. Employees' with higher levels of psychological capital are comparatively more resilient to adverse situations at the workplace and less likely to demonstrate intentions to quit (Avey et al., 2011). Employees with higher levels of psychological capital have low levels of anxiety at work (Avey et al., 2011) and higher levels of job satisfaction (F. Luthans, Youssef et al., 2007) and psychological well-being (Avey, Luthans, Smith, & Palmer, 2010).

Psychological capital influences employees' behaviors, commonly measured through organizational citizenship behavior (OCB) and counter productive work behavior (CWB; Avey et al., 2011). The OCB is a desirable employee behavior, which demonstrates employees' willingness to perform beyond formal job descriptions (Organ, 1988). The CWB is an undesirable employee behavior, which includes employees' behaviors against the interest of organizations (Sackett, 2002). The literature provides evidence about the positive relationship between employees' psychological capital and OCB, and negative relationship between employees' psychological capital and CWB (Avey et al., 2011; Newman, Ucbasaran, Zhu, & Hirst, 2014).

According to Avey et al. (2011), studies on psychological capital examine, "multiple types of performance (e.g., creative tasks, sales, referrals, quality, and quantity of manufacturing, supervisor rated) and multiple sample characteristics (e.g., cross-sectional, service, manufacturing, and the highly educated)" (p. 134). Studies find a positive relationship between employees' psychological capital and job performance (e.g., F. Luthans, Youssef et al., 2007; Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011). Employees' with higher levels of psychological capital are relatively more motivated, energized (Avey et al., 2011), and empowered (Avey, Hughes, Norman, &

Luthans, 2008), which further enhances performance. Studies also provide evidence about the positive relationship between team level psychological capital and team level outcomes (e.g., Clapp-Smith, Vogelgesang, & Avey, 2009; West, Patera, & Carsten, 2009).

Positive Psychology in Higher Education

Today's college life is competitive and stressful. Along with their own expectations, students often experience psychological pressure to meet the expectations of their teachers, parents, and society. Moreover, students may have loans to repay after graduation, which results in additional pressure (Carey, 2004; Peterson, 2015). Class assignments, study projects, and changing labor market needs are among the factors causing student stress (Houghton, Wu, Godwin, Neck, & Manz, 2012), which may further reduce students' chances to succeed in college. Therefore, the purpose of education goes beyond merely developing skills and knowledge (Cain & Carnellor, 2008) or minimizing skill gaps (B. C. Luthans et al., 2012). Enhancing students' positive strengths and capabilities (Seligman, 2002) help in overcoming problems and improving chances of success. Though early researchers examined students' positive psychological capabilities, the new science of positive psychology (Seligman & Csikszentmihalyi, 2000) attracts educators and researchers' attention to focus on factors contributing to students' thriving in the college.

According to Waters (2011), "The emphasis of positive psychology on wellbeing, flourishing, character, meaning and virtue aligns strongly with the ethos of whole-student learning in 21st century schooling" (p. 76). Literature provides evidence about the positive influence of students' well-being on academic performance (Waters, 2011).

Colleges and educators have applied principles of positive psychology in a variety of ways in higher education institutions (Schreiner, Hulme, Hetzel, & Lopez, 2009). Researchers have developed the concept of positive education (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009) and positive university (Oades, Robinson, Green, & Spence, 2011) to promote and enhance students' positive life. Positive education refers to "applied positive psychology in education" (Green, Odes, & Robinson, 2011, para. 2). Positive education promotes positive emotions and positive strengths, which leads to learning and academic success (Bernard & Walton, 2011). Positive university is an academic institution, whose "activities enable key stakeholders to utilize positive traits (e.g., strengths) in the service of individual, joint and collective goals" (Oades et al., 2011, p. 432). Referring to the relationship between positive psychology and higher education, Mather and Hulme (2013) argue,

> The connection between higher education and positive psychology is a natural one, as both are concerned with the formation of healthy, productive, and thriving human beings. Student affairs practitioners and scholars have historically sought to cultivate these outcomes through the application of human development theories. While student development theory provides a rich foundation for professional practice, we content that it is valuable to supplement this theoretical lens with complementary approaches to enrich understanding of educational goals and process. (p. 1)

Therefore, aiming to enhance students' well-being and positive human development including positive psychology interventions into academic learning has become a focus of researchers (Waters, 2011). Students' positive psychological

capacities develop their strengths and courage to face failures and academic challenges that may cause psychological problems. The positive psychology interventions aim to "cultivate positive feelings, positive behaviors, or positive cognitions" (Sin & Lyubomirsky, 2009, p. 467). Buck, Carr, and Robertson (2008) argue that positive psychology has great promise in the field of education.

Psychological Capital and Student Outcomes

The literature provides evidence about the influence of students' psychological capital on a variety of desirable student outcomes. Students' psychological capital has positive relationships with levels of intrinsic motivation (Siu et al., 2014), grade point average, (B. C. Luthans et al., 2012; Koontz, 2016), learning empowerment (You, 2016), satisfaction (Koontz, 2016), and engagement (Datu, King, & Valdez, 2018; K. W. Luthans, Luthans, & Palmer, 2016; Siu et al., 2014; You, 2016). Liu et al. (2015) argue that adjusting to the school environment is often challenging for students, which may enhance levels of stress. Liu et al. (2015) recommend enhancing students' psychological capital, which could help in adjusting to the school environment and reducing the effects of negative life events.

In an experimental study, Bauman (2014) finds psychological capital interventions enhance students' abilities to manage academic stressors such as time, resources, and environmental challenges. Students with higher levels of psychological capital have better abilities to cope with stress during college, which further reduces negative outcomes of stress (Riolli, Savicki, & Richards, 2012). Bauman (2014) suggests inclusion of psychological capital intervention in advising and curriculum may help colleges to enhance students' psychological well-being. Students' psychological capital

represents positive capabilities (B. C. Luthans et al., 2012). Individuals' who have positive capabilities, either grow or broaden their psychological resources to build additional personal resources (Fredrickson, 2001), which further help in leading a positive life.

Using both the cross-sectional and longitudinal approach and controlling for the effect of demographic variables and other covariates, the study by Datu et al. (2018) finds a relationship between students' psychological capital, "academic motivation, engagement, and achievement" (p. 1). A study by K. W. Luthans et al. (2016) finds a positive relationship between students' psychological capital, student-faculty engagement, community-based activities, and transformational learning opportunities. K. W. Luthans et al. (2016) further suggest enhancing students' psychological capital to increase levels of engagement and academic performance. Increasing levels of students' psychological capital also increases levels of career commitment (Duke & Palmer-Schuyler, 2014) and employability (Ngoma & Ntale, 2016).

Predicting and Enhancing Psychological Capital

Though the literature provides evidence about the outcomes, few studies inform about the predictors of psychological capital (Avey, 2014; F. Luthans & Youssef-Morgan, 2017). Avey (2014) provides a meta-analysis of the predictors of psychological capital. Avey (2014) classifies predictors of psychological capital in four categories: leadership, job characteristics, individual differences, and demographics. According to Avey (2014), leadership is one of the strongest predictors of psychological capital. However, there is no consensus about the leadership behaviors that have the greatest influence on followers' psychological capital. The literature also does not guide how

leadership behaviors could be improved to bring positive change in followers' psychological capital.

Literature suggests interventions to enhance psychological capital and refers to them as psychological capital interventions (PCI; F. Luthans et al., 2006). F. Luthans et al. (2006) provide micro interventions (short duration) to enhance psychological capital. PCIs focus on the development of constructs of PsyCap and then integrate each construct to develop overall PsyCap (F. Luthans et al., 2006). PCIs have been developed on the recommendations and guidelines provided by the theories of hope (Snyder, 1994; Snyder, 2002), self-efficacy (Bandura, 1997; Bandura, 2000), resilience (Masten & Reed, 2002), and optimism (Carver & Scheier, 2002). Researchers replicate and extend PCIs to different samples, cultures, and research settings.

F. Luthans, Avey, Avolio, and Peterson (2010) conducted PCIs on the management graduates and managers, and examined the influence of PsyCap on the managers' performance. F. Luthans et al. (2010) found that PCIs increased participants' PsyCap, which further enhanced levels of performance. F. Luthans et al. (2010) examined the validity of PCIs with a sample of management graduates before conducting PCIs on the managers. Russo and Stoykova (2015) replicated and extended PCIs with a sample of students and professionals in Bulgaria to examine the durability of the effect of PCIs. Russo and Stoykova (2015) conducted a follow-up assessment after one month of the PCIs and found the significant durability of the effect of PCIs on the participants' PsyCap. Mind Graden Inc. offers trainers' guide for developing psychological capital developed by F. Luthans, Avolio, and Avey (2013). F. Luthans et al. (2013) provide two-phase interventions to develop psychological capital. Phase 1 interventions develop

psychological capital of a wide variety of participants (F. Luthans et al., 2013). Phase 2 provides strategies to leaders to develop followers' psychological capital (F. Luthans et al., 2013). However, there is still a need for replication and longitudinal studies with different samples and cultures to confirm the validity and the effects of PCIs (F. Luthans et al., 2006; F. Luthans et al., 2010).

A majority of leadership development programs are ineffective in achieving their purpose in organizations. Failure to include followership and inappropriate measures of leadership effectiveness are two reasons of ineffective leadership development programs. The literature on followership argues that leadership behaviors that match with followership behaviors may have relatively more influence on followers' outcomes (e.g., Kelley, 1992). Followers' psychological capital is an outcome of leadership (Avey, 2014), which could serve as a measure of leadership effectiveness. Therefore, a need exists to examine whether followership predicts leadership behaviors; if so, does it bring any additional positive change in followers' psychological capital?

Chapter Summary

Leadership is a process of influencing followers' behaviors (Yukl, 1994). The full range leadership model (Avolio & Bass, 1991) is one the most widely used models of leadership that examines nine dimensions of leadership behaviors. Like leadership, studies examine followership, referred to as the other side of the leadership phenomenon. Kelley's (1992) model of followership is one of the most widely examined typologies of followership, which defines five types of followership styles. Followers' psychological capital is an outcome of leadership (Avey, 2014) and a predictor of a variety of individual and organizational performances (F. Luthans, Youssef et al., 2007). Psychological

capital is a construct of positive psychology that examines individuals' hope, self-efficacy, resilience, and optimism (F. Luthans, Youssef et al., 2007). Positive psychology is a new science of examining and improving individual performances "in a broad range of domains, including relationships, education, health, sports, the military, work, and life in general" (F. Luthans & Youssef-Morgan, 2017, p. 340).

CHAPTER III - METHODOLOGY

This chapter provides information about the research design, population and sample, research instruments, data collection, and analysis procedures for the investigation of research objectives in this research study. This research study examined whether a relationship exists between followership, leadership, and psychological capital. The study examined the best-fit relationship between followership behaviors and leadership behaviors that produce the greatest positive change in psychological capital, using the following research objectives:

RO1 – Describe the age and gender of participants in the study.

RO2 – Determine the relationship between perceived leadership and self-reported psychological capital.

RO3 – Determine the relationship between self-reported followership and psychological capital.

RO4 – Determine the relationship between self-reported followership and perceived leadership.

RO5 – Determine if self-reported followership and perceived leadership together, predict self-reported psychological capital.

RO6 – Determine if perceived leadership mediates the relationship between self-reported followership and psychological capital.

RO7 – Determine the relationship between self-reported followership and perceived leadership that produces the greatest positive change in self-reported psychological capital.

Research Design

According to Johnson (2001), the research design describes the way a researcher collects data from the subjects. This study used a non-experimental quantitative research design. The non-experimental research does not include any treatment or manipulation of variables (Johnson, 2001). Johnson (2001) classifies non-experimental research on the dimensions of research objectives and time. Based on the dimension of research objectives, the non-experimental research has been divided into description, prediction, and explanation, while on the dimension of time, the non-experimental research is classified as cross-sectional, longitudinal, and retrospective (Johnson, 2001).

Since the researcher planned to examine the variance predicted through independent variables (i.e., followership and leadership) on the dependent variable (i.e., psychological capital) without any treatment or manipulation of the variables and research conditions, the researcher used non-experimental, predictive, cross-sectional research design (Johnson, 2001) in this study. The study did not collect longitudinal data that examines variables on more than two points of time (Johnson, 2001). The non-experimental, predictive, cross-sectional research design (Johnson, 2001) collected data at a single point in time to predict relationships between student followership, instructor leadership, and students' psychological capital in this study.

Population and Sample

According to Usunier (2006), the researcher should have complete clarity about the content and community of practice in the study. Appropriate classification and consistent description of the units in a study helps in maintaining the external validity of the study (Hammond & Stewart, 2001). The clarity about the classification and

description of the units helps in selecting an appropriate sample, defining depth and breadth of the variables (Taborsky, 2010), and in drawing valid statistical inferences in the study (Hrazdil, Trottier, & Zhang, 2013). The population of this research study included students enrolled on the Gulf Coast campuses (i.e., Gulf Park campus, Gulf Coast Research Laboratory, and Stennis) of The University of Southern Mississippi (USM). The USM Gulf Coast campuses' (i.e., Gulf Park campus, Gulf Coast Research Laboratory, and Stennis) total headcount enrollment (duplicated) was 3,548 in fall 2017 (Office of Institutional Research, 2017).

Following the recommendations presented by Hair, Hult, Ringle, and Sarstedt (2017), the researcher used G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) to calculate the sample size in this study. G*Power software (Faul et al., 2009; Faul et al., 2007) provides options to calculate a priori sample size for the study. This study used G*Power 3.1.9.2 (Faul et al., 2009; Faul et al., 2007) version of the software. G*Power software (Faul et al., 2009; Faul et al., 2007) does not ask population size for an a priori sample calculation. G*Power software (Faul et al., 2009; Faul et al., 2007) asks researchers to input the values of significance level, estimated effect size, estimated statistical power, and the number of predictors in the study. The values of estimated significance level, effect size, and statistical power are necessary for any calculation of a priori sample size (Hair et al., 2017). The significance level is the "probability of rejecting the null hypothesis when actually true" (Hair, Anderson, Tatham, & Black, 1998, p. 10). The effect size indicates a value of the explained variance of the dependent variable by a predictor variable (Hair et al., 2017). The values of .02, .15, and .35 represent small, medium, and large effect size (Cohen,

1988; Hair et al., 2017). Hair et al. (1998) defined power as the, "probability of correctly rejecting the null hypothesis when it is false" (p. 3). The literature recommends using an effect size of .15, a statistical power of .80, and a significance level of .05 for studies in social sciences (Hair et al., 2017; Kock & Hadaya, 2018). This study included five predictors (i.e., independent thinking, active engagement, transformational leadership, transactional leadership, and passive/avoidant leadership). Therefore, entering the values of .15 for effect size, .80 for statistical power, a significance level of .05, and 5 predictors, G*Power software (Faul et al., 2009; Faul et al., 2007) produced a sample size of 92. Therefore, this study collected data from at least 92 students enrolled on the USM Gulf Coast campuses.

This research study used a convenience-sampling method for data collection. The researcher collected data from the students enrolled in the courses following face-to-face and hybrid method of instructions. The reason for setting the condition of course delivery method is because; the students in the face-to-face and hybrid delivery method of instructions have relatively more interactions with their instructors than the students enrolled in completely online courses. Therefore, students enrolled in courses with face-to-face and hybrid delivery method of instructions would be able to provide information about instructors' leadership behaviors.

Research Instrument

This research study used three standardized and validated questionnaires for data collection. The Academic PsyCap Questionnaire (B. C. Luthans et al., 2012) measured students' self-reported levels of psychological capital. The Multifactor Leadership Questionnaire (Avolio & Bass, 2004; Multifactor Leadership Questionnaire, 2016)

collected data about students' perceptions of their instructors' leadership behaviors. The Followership Style Questionnaire (Kelley, 1992) collected data about students' self-reported followership behaviors.

Psychological Capital Questionnaire

The Academic PsyCap Questionnaire (A-PCQ; B. C. Luthans et al., 2012) measured students' self-reported levels of psychological capital. The A-PCQ (B. C. Luthans et al., 2012) is a modified version of the PsyCap Questionnaire (F. Luthans, Youssef et al., 2007) that fits with the student population. The PsyCap Questionnaire contains six sentences for each of the four factors of psychological capital (i.e., hope, self-efficacy, resilience, and optimism), and "the resulting score represents individual's level of positive PsyCap" (Psychological Capital Questionnaire, 2016, para 2). The PsyCap Questionnaire measures a total of 24 items on a six-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*) (B. C. Luthans et al., 2012; F. Luthans, Youssef et al., 2007).

Studies support the validity and reliability of the PsyCap Questionnaire (Avey, Luthans, & Youssef, 2010). Avey's (2014) study produced an overall Cronbach's alpha value greater than .70. The Cronbach's alpha value of Academic PsyCap Questionnaire was .95 in Selvaraj's (2015) study. The Cronbach alpha values in the study by F. Luthans, Avolio et al. (2007) were, "hope (.72, .75, .80, .76); resilience (.71, .71, .66, .72); self-efficacy (.75, .84, .85, .75); optimism (.74, .69, .76, .79); and the overall PsyCap (.88, .89, .89, .89)" (p. 555). Cronbach's alpha is a measure of internal consistency (R. Kline, 2011). According to R. Kline (2011), the internal consistency reliability using Cronbach's alpha measures "the degree to which responses are consistent

across the items within a measure" (p. 69). The Cronbach's alpha values (i.e., greater than .60 in most of the cases) in these studies indicate an acceptable internal consistency of the scale (Nunnally, 1978; P. Kline, 1999; Taber, 2016).

Multifactor Leadership Questionnaire

The Multifactor Leadership Questionnaire (MLQ; Avolio & Bass, 2004; Multifactor Leadership Questionnaire, 2016) measured students' perceptions of their instructors' leadership behaviors. The MLQ is the most widely used measure of the nine-factor structure of full-range leadership model (Antonakis et al., 2003; Avolio & Bass, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). The full-range leadership model examines transformational, transactional, and passive/avoidant leadership (Avolio & Bass, 2004).

The researcher had the option of collecting instructors' self-reported leadership behaviors on the MLQ. However, "when an administrator describes himself as a leader, this self-description is closer to the subordinates' description of the ideal leader than it is to their description of him" (Bass, 1960, p. 120). Therefore, the researcher collected students' perceptions of their instructors' leadership behaviors.

This research study used the MLQ-5X Rater Form (referred as the short form) for data collection (Avolio & Bass, 2004; Multifactor Leadership Questionnaire, 2016). The researcher purchased MLQ from Mind Garden, Inc., the company that sells and provides permission for the use of MLQ. The standard MLQ (Form 5X) is a 45-item survey (Avolio & Bass, 2004; Multifactor Leadership Questionnaire, 2016). Out of 45 items in MLQ (Form 5X), nine items measure three leadership outcome variables, including extra effort, effectiveness, and satisfaction (Avolio & Bass, 2004; Multifactor Leadership

Questionnaire, 2016). Since this study intended to measure only leadership behaviors, the researcher excluded nine items measuring leadership outcomes in the MLQ (Form 5X). This study used only 36 items of the MLQ (Form 5X) measuring leadership behaviors. The MLQ measures the frequency of leadership behaviors on a Likert scale, ranging from 0 (*not at all*) to 4 (*frequently, if not always*) (Avolio & Bass, 2004). The resulting scores in the MLQ (Form 5X) represent values on the five dimensions of transformational leadership, two dimensions of transactional leadership, and two dimensions of passive/avoidant leadership (Avolio & Bass, 2004; Multifactor Leadership Questionnaire, 2016). Dimensions of idealized influence (attributes), idealized influence (behaviors), inspirational motivation, intellectual stimulation, and individualized consideration measure transformational leadership (Avolio & Bass, 2004). The dimensions of contingent reward and management-by-exception (active) measure transactional leadership (Avolio & Bass, 2004). The dimensions of management-by-exception (passive) and laissez-faire measure passive/avoidant leadership (Avolio & Bass, 2004).

Studies support validity and reliability of the MLQ (e.g., Muenjohn & Armstrong, 2008; Pounder, 2008; Rowold, 2005; Salter, Harris, & McCormack, 2014; Westerlaken & Woods, 2013). The study conducted by Antonakis et al. (2003) informs "that the nine-factor model best represented the factor structure underlying the MLQ (Form 5X) instrument" (p. 283). The study by Westerlaken and Woods (2013) produced Cronbach's alpha values of .86 for transformational leadership, .83 for transactional leadership, and .68 for passive leadership. Pounder's (2008) study produced the Cronbach's alpha values of more than .60 for all the dimensions of leadership behaviors in the MLQ. Muenjohn

and Armstrong's (2008) study produced an overall Cronbach's alpha value of .86 for the MLQ. Cronbach's alpha values for the dimensions and overall Cronbach's alpha (i.e., greater than .60 in most of the cases) for the MLQ indicate acceptable internal consistency reliability of the scale (Nunnally, 1978; P. Kline, 1999; Taber, 2016).

Followership Style Questionnaire

The Followership Style Questionnaire (Kelley, 1992) measured students' self-reported followership behaviors. The Followership Style Questionnaire (Kelley, 1992) is the most widely used standardized and validated questionnaire to measure Kelley's (1992) typology of followership styles. The Followership Style Questionnaire (Kelley, 1992) is a 20-item instrument, which measures five followership styles (i.e., alienated, passive, pragmatist, conformist, and exemplary) on the dimensions of independent critical thinking/dependent uncritical thinking and active/passive engagement (Kelley, 1992). The instrument asks respondents to reflect on their agreement or disagreement with each item on a Likert scale, ranging from 0 (*rarely*) to 6 (*almost always*). Studies support the validity and reliability of the Followership style questionnaire (e.g., Favara, 2009; Hinić, Grubor, & Brulic, 2017; Novikov, 2016). Favara's (2009) study produced an overall Cronbach's alpha value of .87. The Cronbach's alpha values were .77 for independent thinking and .86 for active engagement subscales in Favara's (2009) study. The study by Novikov (2016) produced Cronbach's alpha values of .85 for active engagement, and .79 for critical thinking. The Cronbach's alpha of the whole questionnaire was .89 in Novikov's (2016) study. The Cronbach's alpha values (i.e., greater than .70 in most of the cases) in these studies indicate acceptable internal consistency reliability of the scale (Nunnally, 1978; P. Kline, 1999; Taber, 2016).

Data Collection

The researcher collected data through three standardized and validated questionnaires: A-PCQ (B. C. Luthans et al., 2012), MLQ (MLQ-5X Short; Avolio & Bass, 2004; Multifactor Leadership Questionnaire, 2016), and the Followership Styles Questionnaire (Kelley, 1992). Permissions of using the questionnaires for data collection and analysis were granted for this study; however, there are restrictions to publish questionnaires in the dissertation. The data were collected through paper-pencil based research instruments. Using a convenience-sampling method, data were collected from a sample of at least 92 students enrolled in the USM Gulf Coast campuses. The survey took no more than 15 minutes to complete.

Collecting data through multiple research instruments on a single time from single source may cause common-method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Since this study collected responses on all the three surveys from a single source (i.e., students), the common-method bias could create potential problem in the study. The common-method bias is a measurement error (or variance) that occurs due to measurement methods used in the study and not because any cause effect relationships between the variables (Podsakoff et al., 2003). Podsakoff et al. (2003) recommend techniques to control common-method biases. Following the recommendations presented by Podsakoff et al. (2003), this study used three techniques to control common-method biases. The researcher informed respondents that the surveys do not include any right or wrong answers; therefore, they are expected to respond honestly to the questions (Podsakoff et al., 2003). During the data collection, the researcher created a psychological story for the participants (Podsakoff et al., 2003), which included that the

study intends to examine the institutional factors affecting students' behaviors. Therefore, participants were unable to make presumptions about the relationships between the variables, which could minimize method biases in the study (Podsakoff et al., 2003). The study also employed Harman's single factor test as recommended by Podsakoff et al. (2003). The survey began after the IRB approval for this study. Table 1 presents data collection phases followed by detailed descriptions of data collection phases.

Table 1

Data Collection Phases

Phase	Activity	Timeline
1	Proposal approval	
2	IRB approval	Within a week after proposal approval
3	- Obtained the list of courses along with the list of instructors and number of students enrolled in each course at the USM Gulf Coast Campuses–the list is available at the USM website. - Printed copies of the research instruments. - Sent email and met with the instructors to request instructors' permissions to conduct the surveys of their students. - Took permission of the instructors, visited their classes, and conducted the surveys.	Within First and Second week after the IRB approval
4	Recorded, organized, and cleaned data	Third & Fourth week
5	Data analysis	Third & Fourth week
6	Result interpretation and writing	Third & Fourth week

The data collection strategy included collecting data through a paper-pencil research instrument. The data collection strategy included the following procedure.

- A list of the courses along with the names of the instructors and number of students enrolled at the USM Gulf Coast campuses was obtained from the USM website–www.usm.edu.
- A list containing instructors' names and email addresses was created.
- An email along with the description of the study was sent to the instructors requesting their permissions to conduct the survey of the students enrolled in their courses. The researcher requested the instructors for fifteen minutes of time for the surveys after the end or at the beginning of the instructors' classes.
- After obtaining the permission of the instructors, the researcher visited the classes to conduct the survey of the students.
- The researcher described the study to the participants and distributed the questionnaires along with the consent forms. Participants were requested to not write their names or any other identifiers anywhere on the questionnaires. All the participants were requested to sign the consent forms before responding to the questionnaires. A ticket coupon was distributed to each of the participants along with the consent forms and questionnaires. The ticket coupons were used for a random drawing to distribute incentives to the participants. A total of 31 students out of the total responses were selected for incentives. Selected participants received a $10 lunch coupon of the Beach View Café at the USM Gulf Park Campus.

- Participants were requested to detach the signed consent forms from the questionnaires.
- Signed consent forms and filled questionnaires were collected and stored in two separate envelopes.
- Instructor was requested for drawing to distribute incentives.

The data were recorded and screened through IBM SPSS-statistical analysis software. The researcher organized data by participants' age and gender. The survey map presented in Table 2 provides information about the survey questions measuring the variables identified through research objectives in this study.

Table 2

Survey Map

Research Objectives	Section Number and Survey Questions	Research Instrument
RO1 – Describe the age and gender of participants in the study.	Section 1– Q(1), Q(2)	
RO2 – Determine the relationship between perceived leadership and self-reported psychological capital.	Section 4– (Q1 - Q36) Section 3– (Q1 - Q24)	Multifactor leadership Academic PsyCap
RO3 – Determine the relationship between self-reported followership and psychological capital.	Section 2– (Q1 - Q20) Section 3– (Q1 - Q24)	Followership styles Academic PsyCap
RO4 – Determine the relationship between self-reported followership and perceived leadership.	Section 2– (Q1 - Q20) Section 4– (Q1 - Q36)	Followership styles Multifactor leadership
RO5 – Determine if self-reported followership and perceived leadership together, predict self-reported psychological capital.	Section 2– (Q1 - Q20) Section 4– (Q1 - Q36) Section 3– (Q1 - Q24)	Followership styles Multifactor leadership Academic PsyCap

(Continued)

Table 2 (Continued)

Research Objectives	Section Number and Survey Questions	Research Instrument
RO6 – Determine if perceived leadership mediates the relationship between self-reported followership and psychological capital.	Section 2– (Q1 - Q20) Section 4– (Q1 - Q36) Section 3– (Q1 - Q24)	Followership styles Multifactor leadership Academic PsyCap
RO7 – Determine the relationship between self-reported followership and perceived leadership that produces the greatest positive change in self-reported psychological capital.	Section 2– (Q1 - Q20) Section 4– (Q1 - Q36) Section 3– (Q1 - Q24)	Followership styles Multifactor leadership Academic PsyCap

Institutional Review Board

The Institutional Review Board (IRB) is an administrative body that governs, approves, disapproves, monitors, and regulates every research (regardless of funding) involving human subject as participants (The University of Southern Mississippi [USM], 2017). The aim of IRB is to protect the rights, welfare, and privacy of the human subjects (USM, 2017). IRB ensures that proposed research meets federal and institutional standards and guidelines (USM, 2017). No research study should be conducted without a prior approval from IRB. This study received approval from IRB before data collection and analysis.

Internal and External Validity

The validity of a study is an important concern. The validity of the study could be divided into internal and external validity. The internal validity includes the ability to make conclusions regarding the causal relationships between the variables in the study

(Salkind, 2010; Shadish, Cook, & Campbell, 2002). The internal validity is generally low in non-experimental research (Salkind, 2010; Shadish et al., 2002). In the non-experimental research, extraneous variables may cause a variance in the dependent variable (Salkind, 2010; Shadish et al., 2002). Therefore, independent variable is not the only reason of variance in the dependent variable, restricting the researcher to make any conclusion about the causal relationships between the variables (Salkind, 2010; Shadish et al., 2002). Since this study was non-experimental, no conclusions about the causal relationships between the variables could be drawn. The external validity of the study includes the ability of the study to be generalized for the population and research settings other than examined in the study (Salkind, 2010; Shadish et al., 2002). The external validity is generally high in non-experimental research, because there is no manipulation of variables or research conditions in non-experimental research (Salkind, 2010; Shadish et al., 2002). Since this study was non-experimental, there does not seem to be any threat to external validity.

Data Analysis

The data were screened (i.e., identifying missing values and outliers) and assessed for the normality of distribution before investigation of research objectives. This study used descriptive statistics and partial least squares approach to structural equation modeling (PLS-SEM) to examine the research objectives. The variables in the study include students' age, gender, followership behaviors, instructor leadership behaviors, and students' psychological capital. Data analysis was conducted through two statistical software: IBM SPSS version 25 and SmartPLS version 3.2.7 (Ringle, Wende, & Becker, 2015). Data analysis included following steps:

- Descriptive statistics was used to describe variables in the study. Minimum value, maximum value, mean value, and standard deviation described participants' age. Frequency distribution described participants' gender. Mean and standard deviation were used to describe participants' self-reported scores on the dimensions of followership, psychological capital, and their perceptions of instructor leadership behaviors.
- Partial least squares approach to structural equation modeling (PLS-SEM) examined the relationships between the variables (i.e., followership, leadership, and psychological capital) in the study.

Table 3, 4, 5, 6, 7, 8, and 9 present a description of research objectives along with the variables and applied statistical methods.

RO1 – Describe the age and gender of participants in the study.

Table 3

Statistical Analysis Table for RO 1

Variables	Scales of Measurement	Statistical Test	Statistical Test Description
Age	Scale	Mean, Standard deviation	Mean is an average of sum of observed outcomes of the sample (Field, 2013). The standard deviation measures value of variation or dispersion in a data set (Field, 2013).
Gender	Nominal	Frequency distribution	The frequency distribution displays the number of times a value of the variable appears in the dataset (Field, 2013).

RO2 – Determine the relationship between perceived leadership and self-reported psychological capital.

Table 4

Statistical Analysis Table for RO 2

Variables	Scales of Measurement	Statistical Test
Leadership, IV		*PLS-SEM
Transformational, IV-1	Scale	
Transactional, IV-2	Scale	
Passive/Avoidant, IV-3	Scale	
Academic Psychological capital, DV	Scale	
Schoolwork Hope, DV-1	Scale	
Schoolwork Self-Efficacy, DV-2	Scale	
Schoolwork Resilience, DV-3	Scale	
Schoolwork Optimism, DV-4	Scale	

Note. IV refers to independent variable. DV refers to dependent variable. PLS-SEM refers to partial least squares structural equation modeling.
* PLS-SEM is a type of structural equation modeling that explains the variance in the dependent variables in a structural model (Hair et al., 2017).

RO3 – Determine the relationship between self-reported followership and psychological capital.

Table 5

Statistical Analysis Table for RO 3

Variables	Scales of Measurement	Statistical Test
Followership, IV		*PLS-SEM
Independent thinking, IV-1	Scale	
Active engagement, IV-2	Scale	
Academic Psychological capital, DV	Scale	
Schoolwork Hope, DV-1	Scale	
Schoolwork Self-Efficacy, DV-2	Scale	
Schoolwork Resilience, DV-3	Scale	
Schoolwork Optimism, DV-4	Scale	

Note. IV refers to independent variable. DV refers to dependent variable. PLS-SEM refers to partial least squares structural equation modeling.
* PLS-SEM is a type of structural equation modeling that explains the variance in the dependent variables in a structural model (Hair et al., 2017).

RO4 – Determine the relationship between self-reported followership and perceived leadership.

Table 6

Statistical Analysis Table for RO 4

Variables	Scales of Measurement	Statistical Test
Followership, IV		*PLS-SEM
Independent thinking, IV-1	Scale	
Active engagement, IV-2	Scale	
Leadership, DV		
Transformational, DV-1	Scale	
Transactional, DV-2	Scale	
Passive/Avoidant, DV-3	Scale	

Note. IV refers to independent variable. DV refers to dependent variable. PLS-SEM refers to partial least squares structural equation modeling.
* PLS-SEM is a type of structural equation modeling that explains the variance in the dependent variables in a structural model (Hair et al., 2017).

RO5 – Determine if self-reported followership and perceived leadership together, predict self-reported psychological capital.

Table 7

Statistical Analysis Table for RO 5

Variables	Scales of Measurement	Statistical Test
Followership, IV		*PLS-SEM
Independent thinking, IV-1	Scale	
Active engagement, IV-2	Scale	
Leadership, IV		
Transformational, IV-1	Scale	
Transactional, IV-2	Scale	
Passive/Avoidant, IV-3	Scale	
Academic Psychological capital, DV	Scale	
Schoolwork Hope, DV-1	Scale	
Schoolwork Self-Efficacy, DV-2	Scale	
Schoolwork Resilience, DV-3	Scale	
Schoolwork Optimism, DV-4	Scale	

Note. IV refers to independent variable. DV refers to dependent variable. PLS-SEM refers to partial least squares structural equation modeling.

* PLS-SEM is a type of structural equation modeling that explains the variance in the dependent variables in a structural model (Hair et al., 2017).

RO6 – Determine if perceived leadership mediates the relationship between self-reported followership and psychological capital.

Table 8

Statistical Analysis Table for RO 6

Variables	Scales of Measurement	Statistical Test
Followership, IV		*PLS-SEM
Independent thinking, IV-1	Scale	
Active engagement, IV-2	Scale	
Leadership, MV		
Transformational, MV-1	Scale	
Transactional, MV-2	Scale	
Passive/Avoidant, MV-3	Scale	
Academic Psychological capital, DV	Scale	
Schoolwork Hope, DV-1	Scale	
Schoolwork Self-Efficacy, DV-2	Scale	
Schoolwork Resilience, DV-3	Scale	
Schoolwork Optimism, DV-4	Scale	

Note. IV refers to independent variable. DV refers to dependent variable. MV refers to mediating variable. PLS-SEM refers to partial least squares structural equation modeling.
* PLS-SEM is a type of structural equation modeling that explains the variance in the dependent variables in a structural model (Hair et al., 2017).

RO7 – Determine the relationship between self-reported followership and perceived leadership that produces the greatest positive change in self-reported psychological capital.

Table 9

Statistical Analysis Table for RO 7

Variables	Scales of Measurement	Statistical Test
Followership, IV		*PLS-SEM
Independent thinking, IV-1	Scale	
Active engagement, IV-2	Scale	
Leadership, IV, MV		
Transformational, IV-1, MV-1	Scale	
Transactional, IV-2, MV-2	Scale	
Passive/Avoidant, IV-3, MV-3	Scale	
Academic Psychological capital, DV	Scale	
Schoolwork Hope, DV-1	Scale	
Schoolwork Self-Efficacy, DV-2	Scale	
Schoolwork Resilience, DV-3	Scale	
Schoolwork Optimism, DV-4	Scale	

Note. IV refers to independent variable. DV refers to dependent variable. MV refers to mediating variable. PLS-SEM refers to partial least squares structural equation modeling.
* PLS-SEM is a type of structural equation modeling that explains the variance in the dependent variables in a structural model (Hair et al., 2017).

Data Screening

The screening of data is necessary to ensure the quality of the statistical results. Data screening is conducted before data analysis of the research objectives. This study identified missing values and outliers in the dataset. The missing values are the "information not available for a subject (or case) about whom other information is available" (Hair et al., 1998, p. 38). Outlier is "An observation that is substantially different form the other observations (i.e., has extreme value)." (Hair et al., 1998, p. 38).

The investigation of outliers was conducted using Mahalanobis Distance (M-D) test (Tabachnick & Fidell, 2007). The M-D test "evaluates the position of each observation compared with the center of all observations on a set of variables." (Hair et al., 1998, p. 67). The statistical test for significance in M-D test considers a value exceeding .001 as outlier (Hair et al., 1998, p. 67).

Assessment of Normality of the Data Distribution

Though the assumption of data normality is not required in the PLS-SEM investigation, too much deviation from the normality may bias the results (Hair et al., 2017). The normality of the data was examined using excess skewness and kurtosis values (Hair et al., 2017) and Kolmogorov-Smirnov test (Hair et al., 2017; R. Kline, 2011; Tabachnick & Fidell, 2007). Skewness is a "Measure of the symmetry of a distribution; in most instances the comparison is made to a normal distribution." (Hair et al., 1998, p. 38). Kurtosis is a "Measure of peakedness or flatness of a distribution when compared with a normal distribution" (Hair et al., 1998, p. 37). SmartPLS version 3.2.7 (Ringle et al., 2015) provides excess skewness and kurtosis values. The data is non-normal if skewness and kurtosis values are greater than +1 or lower than -1 (Hair et al., 2017). Kolmogorov-Smirnov test examines data normality (Hair et al., 2017; R. Kline, 2011; Tabachnick & Fidell, 2007). Data is non-normal if the significance value falls below .05 in Kolmogorov-Smirnov test (Hair et al., 2017; R. Kline, 2011; Tabachnick & Fidell, 2007).

Investigation of Common-Method Bias

The statistical investigation of common-method bias was conducted using Harman's single factor test. Harman's single factor test was conducted by unrotated

principal component analysis (PCA) on all of the scale items measuring followership, leadership, and psychological capital. Common-method bias appears if one factor explains more than 50% variance in the data (Hsing-Ming, Mei-Ju, Chia-Hui, & Ho-Tang, 2017).

Descriptive Statistics Analysis

The purpose of descriptive statistics is to summarize and describe the data. Minimum value, maximum value, mean, and standard deviation described participants' age and responses on the research instruments measuring independent thinking, active engagement, transformational leadership, transactional leadership, passive/avoidant leadership, and psychological capital. Frequency distribution described participants' gender.

Partial Least Square Structural Equation Modeling

In this section of data analysis, the researcher used partial least squares structural equation modeling (PLS-SEM) to examine the research objectives 2, 3, 4, 5, 6, and 7. PLS-SEM is one of the techniques of structural equation modeling (SEM). SEM is an advanced statistical technique that examines the relationship between the variables, hypothesized in the form of a theoretical model (Field, 2013; Hair et al., 1998; Schumacker & Lomax, 2010). Based on the theoretical discussion in this study, the researcher examined six hypothesized analytical models. Table 10 provides descriptions of the hypothesized analytical models in this study. Appendix D (See Figures 7, 8, 9, 10, and 11) provides graphical representations of the hypothesized analytical models.

Table 10

Hypothesized Analytical Models in the Study

Analytical Models & Research Objective	Description of analytical models	Variables		
		Independent	Mediator	Dependent
Analytical Model 1 (RO2)	Influence of instructor leadership on students' psychological capital	Instructor leadership	None	Students' psychological capital
Analytical Model 2 (RO3)	Student followership as a predictor of students' psychological capital	Student followership	None	Students' psychological capital
Analytical Model 3 (RO4)	Student followership as a predictor of instructor leadership	Student followership	None	Instructor leadership
Analytical Model 4 (RO5)	Student followership and instructor leadership together, as predictors of students' psychological capital	Student followership, Instructor leadership	None	Students' psychological capital
Analytical Model 5 (RO6)	Instructor leadership as a mediator in the relationship between student followership and students' psychological capital	Student followership	Instructor leadership	Students' psychological capital

According to Hair et al. (2017), "Structural theory shows how the latent variables are related to each other. The location and sequence of the constructs are based on theory or the researcher's experience and cumulated knowledge" (p. 14). The benefit of using SEM is that it can examine multiple and complex relationships between all the variables

simultaneously in a single model, and can be used to test, confirm, and develop a theoretical assumption in the study (Hair et al., 1998).

The SEM is "a family of related procedures", which includes factor analysis and regression or path analysis (R. Kline, 2011, p. 7). The factor analysis includes "simplification of a large number of inter-correlated measures to a few representative constructs or factors" (Ho, 2014, p. 239). The path analysis includes multiple regression with causal perspective of structural relationships between the variables developed on the theory (Ho, 2014). The SEM defines variables, and variables define constructs and their relationships (Schumacker & Lomax, 2010). The SEM model includes two variables: latent variables (or constructs) and observed variables (Schumacker & Lomax, 2010). The latent variable is a variable that cannot be directly measured (Hair et al., 1998). Therefore, one or more than one observed or indicator variables measure a latent variable (Hair et al., 1998). Hair et al. (2017) explain, "When latent variables serve only as independent variables, they are called exogenous variables, when latent variables serve only as dependent variables or as both independent and dependent variables, they are called endogenous variables" (p. 14). This study examined student followership behaviors as exogenous variable predicting instructor leadership behaviors and students' psychological capital. The study conceptualizes instructor leadership behaviors as both the independent and dependent variable; therefore, examined as an endogenous variable in this study. Students' psychological capital was examined as an endogenous variable in this study. Table 11 presents a description of variables used in the structural model in this study.

Table 11

Variables in the Structural Equation Model

Independent variables (Exogenous variable)	Mediating variables (Endogenous variable)	Dependent variables (Endogenous variable)
Independent thinking Active engagement Transformational leadership Transactional leadership Passive/avoidant leadership	Transformational leadership Transactional leadership Passive/avoidant leadership	Psychological capital

The literature defines two types of SEM techniques: covariance-based SEM (CB-SEM) and partial least squares SEM (PLS-SEM; also called as the PLS path modeling). Hair et al. (2017) differentiate between the two types of SEM techniques,

> CB-SEM is primarily used to confirm (or reject) theories (i.e., a set of systematic relationships between multiple variables that can be tested empirically)….In contrast PLS-SEM is primarily used to develop theories in exploratory research. It does this by focusing on explaining the variance in the dependent variables when examining the model. (p. 4)

Since the researcher planned to predict relationships among the variables, the PLS-SEM was employed in this study. The researcher examined the variance occurred in the dependent variable (Hair et al., 2017). SmartPLS (Ringle et al., 2015) is one among the largely used software for PLS-SEM. The latest version of SmartPLS software is SmartPLS 3.2.7 (Ringle et al., 2015) that was used in this study.

Following the recommendations presented by Hair et al. (2017) for PLS-SEM, the data analysis was conducted in two steps. The first step investigates measurement model that examines the reliability and validity of the variables in the model (Hair et al., 2017). The measurement model examines the relationship between the latent variable (or construct) and their corresponding indicators (Hair et al., 2017). The second step examines the structural model investigating the relationship between the latent variables (Hair et al., 2017).

Measurement Model Assessment. The PLS-SEM technique suggests examining the measurement model (outer model) before the structural model (inner model). The structural equation model in this study includes 6 latent variables (i.e., independent thinking, active engagement, transformational leadership, transactional leadership, passive/avoidant leadership, and psychological capital). The latent variables are divided into first-order model and higher-order model (or hierarchical component models [HCM]; Hair et al., 2017). The first-order models include "single layer of constructs" (Hair et al., 2017, p. 281). The HCM includes two components: "the higher-order component (HOC), which captures the more abstract higher-order entity, and the lower-order components (LOCs), which capture the subdimensions of the higher-order entity." (Hair et al., 2017, p. 281). Figures 2, 3, 4, 5, and 6 presents measurement models of the latent variables in this study.

Leadership contains three HOCs (i.e., transformational leadership, transactional leadership, and passive/avoidant leadership). The HOC of transformational leadership include LOCs of idealized influence (attributes), idealized influence (behaviors), inspirational motivation, intellectual stimulation, and individualized consideration. The

HOC of transactional leadership includes LOCs of contingent reward and management-by-exception (active). The HOC of passive/avoidant leadership includes LOCs of management-by-exception (passive) and laissez-faire. Followership includes two first-order constructs: independent thinking and active engagement. Academic psychological capital is a higher-order construct, which includes four LOCs: Schoolwork hope, self-efficacy, resilience, and optimism.

Using HOC in a model decreases the number of relationships in the structural model, reduces model complexity, and increases parsimony of the model (Lohmöller, 1989). HOC include observable LOCs (Hair et al., 2017). According to Hair, Sarstedt, Ringle, and Gudergan (2018), "a hierarchical component model represents a more general construct, measured at a higher level of abstraction, while simultaneously including several subcomponents, which cover more concrete traits or the conceptual variable represented by this construct" (p. 24). Followership, Leadership (e.g., Schweitzer, 2014) and psychological capital (e.g., Kotzé, 2018) have been developed as reflective constructs. In the reflective constructs, the variable causes indicators (Hair et al., 2017).

HOC in this study was examined using the combination of repeated indicator (Wold, 1982) and two-stage approach (Becker, Klein, & Wetzels, 2012; Hair et al., 2017; Wetzels, Odekerken-Schröder, & van Oppen, 2009). Using the repeated indicator approach, the indicators belonging to a first-order construct were repeated to the corresponding second-order construct (Wetzels et al., 2009). The latent variable scores of LOCs were used as the indicators of the HOCs investigating the reliability and validity of the HOCs (Becker et al., 2012; Wetzels et al., 2009). Loadings of the indicators with

first-order construct are called as the first-order loadings and the loadings between the first-order dimensions with the corresponding second-order construct are called as the second-order loadings (Wetzels et al., 2009). Both the loadings have to be examined to develop the quality of the measurement model before investigating the structural model (Wetzels et al., 2009). The criteria for the investigation of the loadings are same for both the first-order loadings and second-order loadings (Hair et al., 2017).

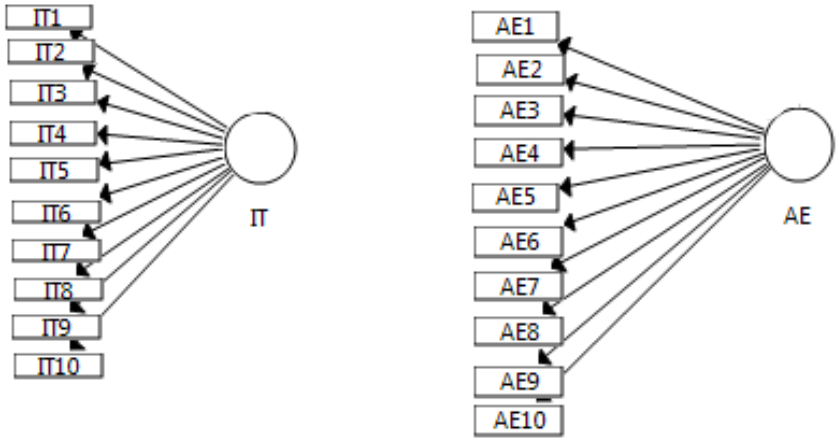

Figure 2. Measurement model of independent thinking and active engagement.

Note. IT refers to independent thinking. IT1 to IT10 refers to the indicators of IT. AE refers to active engagement. AE1 to AE10 refers to the indicators of AE.

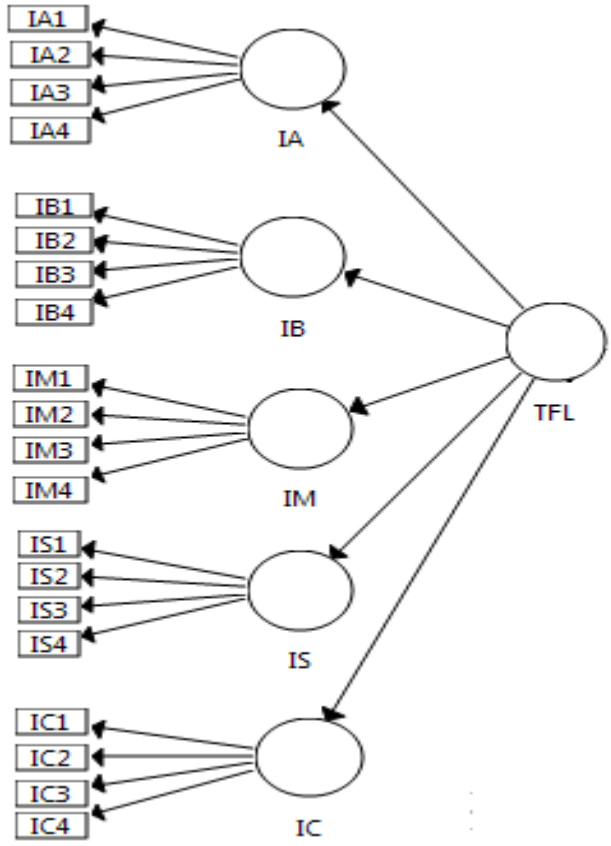

Figure 3. Measurement model of transformational leadership.

Note. IA refers to idealized influence (attributes). IA 1 to IA 4 refers to the indicators of IA. IB refers to idealized influence (behaviors). IB 1 to IB4 refers to the indicators of IB. IM refers to inspirational motivation. IM1 to IM4 refers to the indicators of IM. IS refers to intellectual stimulation. IS1 to IS4 refers to the indicators of IS. IC refers to individualized consideration. IC1 to IC4 refers to the indicators of IC. TFL refers to transformational leadership.

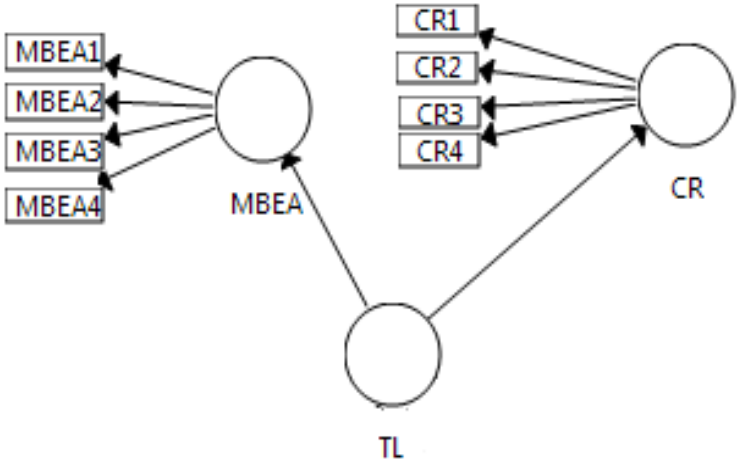

Figure 4. Measurement model of transactional leadership.

Note. CR refers to contingent reward. CR1 to CR4 refers to the indicators of CR. MBEA refers to management by exception (active). MBEA1 to MBEA4 refers to the indicators of MBEA. TL refers to transactional leadership.

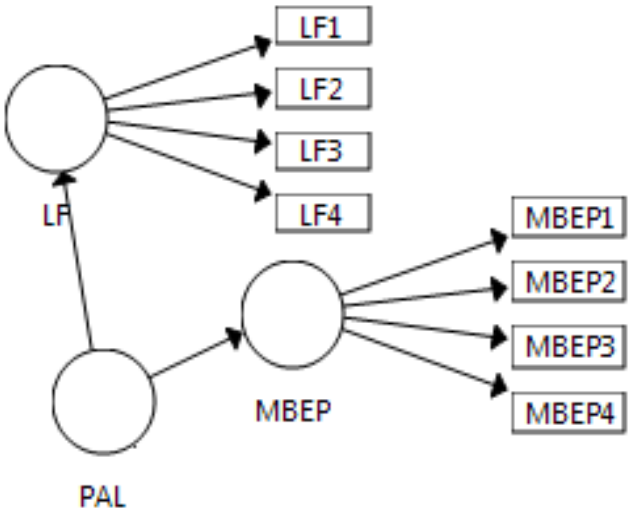

Figure 5. Measurement model of passive/avoidant leadership.

Note. MBEP refers to management by exception (passive). MBEP1 to MBEP4 refers to the indicators of MBEP. LF refers to laissez-faire. LF1 to LF4 refers to the indicators of LF. PAL refers to passive/avoidant leadership.

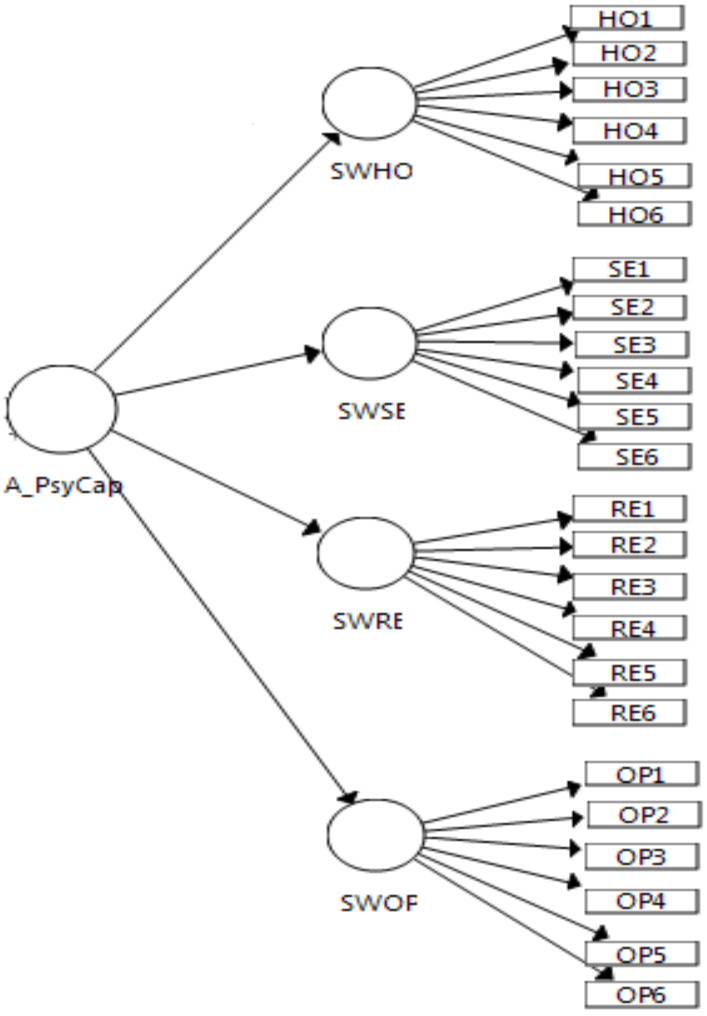

Figure 6. Measurement model of psychological capital.

Note. SWHO refers to schoolwork hope. HO1 to HO6 refers to the indicators of HO. SWSE refers to schoolwork self-efficacy. SE1 to SE6 refers to the indicators of SE. SWRE refers to schoolwork resilience. RE1 to RE6 refers to the indicators of RE. SWOP refers to schoolwork optimism. OP1 to OP6 refers to the indicators of OP. A_PsyCap refers to academic psychological capital.

Investigation of the measurement model (or the outer model) includes examining the internal consistency reliability, convergent validity, discriminant validity, and indicator reliability (Hair et al., 2017). The measurement model was examined in two-layers in the case of HOC. The researcher examined the first-order (LOC) measurement model followed by the investigation of the second-order (HOC) measurement model (Hair et al., 2017).

Internal Consistency Reliability. Internal consistency reliability accesses the consistency of results across the items of the same variables (Hair et al., 2017). Cronbach's alpha is a traditional measure of internal consistency (Hair et al., 2017). However, in the PLS-SEM, internal consistency reliability was accessed by calculating the composite reliability (Hair et al., 2017). Composite reliability values of .60 to .70 are acceptable in the exploratory research (Bagozzi & Yi, 1988), while in more advanced stages of research, values between .70 and .90 can be regarded as satisfactory (Hair et al., 2017). Composite reliability values above .95 are not desirable because they indicate that all the indicators variables are measuring the same phenomenon and are therefore not likely to be a valid measure of the construct (Hair et al., 2017).

Indicator Reliability. Indicator reliability examined by outer loadings investigates the value of explained variance in an item by a variable (Hair et al., 2017). Commonly the indicators' outer loadings should be greater than .708; however, an exploratory study and in the situation of developing a new scale may consider an outer loading equal to or greater than .40 (Hair et al., 2017). Items with loadings between .40 and .70 are deleted if it enhances average variance extracted and composite reliability values (Hair et al., 2017; Hair, Ringle, & Sarstedt, 2011).

Convergent Validity. According to Hair et al. (2017), "Convergent validity is the extent to which a measure correlates positively with alternative measures of the same construct" (p. 112). Average variance extracted (AVE) value is a measure of convergent validity that should be greater than .50 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hair et al., 2017). An AVE less than .50 indicates that on average, more variance remain in the error of the items than in the variance explained by the construct (Hair et al., 2017).

Discriminant Validity. According to Hair et al. (2017), "Discriminant validity is the extent to which a construct is truly distinct from other constructs" (p. 115). There are two methods of investigating discriminant validity: cross-loadings (i.e., correlation) and Fornell and Larcker (1981) criterion. In the cross-loadings method, the indicators' outer loadings should be greater than its cross-loadings on other constructs (Hair et al., 2017). Fornell and Larcker (1981) criterion "compares the square root of AVE values with latent variable correlations...and the square root of each construct's AVE should be greater than its correlation with other constructs" (Hair et al., 2017, p. 115-116).

Structural Model Assessment. Structural model assessment includes the investigation of collinearity, path coefficient, coefficient of determination (R^2), effect size (f^2 & q^2), and predictive relevance (Q^2).

Collinearity Assessment. According to Hair, Black, Babin, and Anderson (2010), collinearity "occurs when any single independent variable is highly correlated with a set of other independent variables" (p. 143). A rise in multicollinearity "complicates the interpretation of the variate as it is more difficult to ascertain the effect of any single variable, owing to their relationships" (Hair et al., 1998, p. 2). According to Hair et al. (2017), there is a "need to examine each set of predictor construct for each subpart of the structural model" (p. 192). Multicollinearity was evaluated by calculating the tolerance (TOL) and variance inflation factor (VIF). VIF computes the variances of the estimated coefficients (Hair et al., 2017). Hair et al. (2017) suggests that VIF above 5.00 and tolerance levels below .20 in the predictor constructs implies high collinearity.

Path Coefficient. Path coefficient examines the relationship between the constructs (Hair et al., 2017). The path coefficients may have the standardized values

between -1 and +1 (Hair et al., 2017). The investigation of path coefficients includes examining the significance of *t* statistics through bootstrapping procedure (Hair et al., 2017). According to Hair et al. (2017), "Bootstrapping is a re-sampling approach that draws random samples (with replacements) from the data and uses these samples to estimate the path model multiple times under slightly changed data constellations" (p. 185-186).

Coefficient of Determination. The investigation of the coefficient of determination (R^2) is one of the major parts of the structural model assessment (Hair et al., 2017). The coefficient of determination represents the amount of explained variance of each endogenous latent variable (Hair et al., 2017). The R^2 values of .25, .50, and .75 describe a weak, moderate, and strong coefficient of determination (Hair et al., 2017).

Effect Size (f^2). The f^2 was computed to examine the effect size. Effect size f^2 was computed by deleting a specific construct from the model and examining the change in R^2 values. Effect size f^2 values of .02, .15, and .35 respectively indicate small, medium, and large effect sizes (Cohen, 1988; Hair, Ringle, & Sarstedt, 2013). Effect size f^2 values "less than .02 indicate that there is no effect" (Hair et al., 2017, p. 201).

Predictive Relevance. Stone-Geisser's predictive relevance (Q^2) was computed to examine the predictive relevance of each model (Geisser, 1974; Stone, 1974; Hair et al., 2017). Stone-Geisser's predictive relevance (Q^2) "is an indicator of model's out-of-sample predictive power" (Hair et al., 2017, p. 202). Blindfolding procedure (Henseler, Ringle, & Sinkovics, 2009; Tenenhaus, Vinzi, Chatelin, & Lauro, 2005) was used to compute Q^2 (Hair et al., 2017). According to Hair et al. (2017), blindfolding procedure "is an iterative process that repeats until each data point has been omitted and the model

is re-estimated" (p. 202). A Q^2 value greater than zero demonstrates good predictive relevance (Chin, 1998).

Effect Size (q^2). Effect size q^2 examines an exogenous construct's contribution to an endogenous latent variable Q^2 value. Effect size q^2 was calculated to examine "the relative impact of predictive relevance" (Hair et al., 2017, p. 207). Effect size q^2 "values of .02, .15, and .35 indicate that an exogenous construct has a small, medium, or large predictive relevance respectively, for a specific endogenous construct" (Hair et al., 2017, p. 208).

Mediation Analysis. The mediation analysis was conducted following the guidelines presented by Zhao, Lynch, and Chen (2010). The mediation analysis was conducted using the following steps:

First step of mediation analysis determined the significance of indirect effect (Zhao et al., 2010). The significance of indirect effect was examined through bootstrapping procedure (Zhao et al., 2010). The indirect effect is an effect of exogenous variables on the endogenous variable through mediating variable (Nitzl, Roldan, & Cepeda, 2016; Zhao et al., 2010). According to Preacher and Hayes (2008), mediation occurs in the situations when indirect relationship between exogenous and endogenous variable is significant.

Second step of mediation analysis determined the type of mediation (Zhao et al., 2010). Complementary mediation occurs when both the indirect and direct effects are significant and have same direction (Zhao et al., 2010). Competitive mediation occurs when both the indirect and direct effect are significant and have opposite directions (Zhao et al., 2010). Indirect-only mediation is a situation when only indirect effect is significant

(Zhao et al., 2010). Direct-only non-mediation is a situation when only direct effect is significant (Zhao et al., 2010). No-effect non-mediation occurs when both the direct and indirect effects are non-significant (Zhao et al., 2010).

Limitations

According to Kelley et al. (2003), purposive sampling may limit the generalizations of results. Since this study focused on the sample of students enrolled only on the Gulf Coast campuses of USM, results of this study cannot be generalized to the students of other universities and colleges. Future researchers may use a diverse sample of students from other universities and countries. According to Creswell and Plano Clark (2011), investigation of variables containing subjective components may be limited in purely quantitative studies. Since the variables in this study (i.e., followership, leadership, and psychological capital) include subjective components, the investigation of the variables using mixed methods approach may provide more information about the variables and their relationships. The research instrument measuring student followership was originally developed for organizational settings. Though participants were asked to respond in the surveys considering academic settings, their responses may not be the best representation of student followership for academic settings.

This study collected a cross-sectional data. According to Caruana, Roman, Hernández-Sánchez, and Solli (2015), the cross-sectional study is static in nature, thereby does not include the change of time in the variables. Therefore, the cross-sectional studies are comparatively less valid for cause-effect relationships (Caruana et al., 2015). The longitudinal data could provide better information about the relationships among the variables (Caruana et al., 2015). Purposive convenience sampling and voluntary

participation of respondents limit generalization of results to whole population (Ellis & Levy, 2009). Therefore, the sample of this study may not be the best representative of the diverse population of students in the United States and USM. Participants' responses in the survey may suffer social desirability bias (Jo, Nelson, & Kiecker, 1997; Steenkamp, de Jong, & Baumgartner, 2010) that may also be case in this study.

Chapter Summary

In summary, the purpose of the study was to examine the relationship between followership behaviors, leadership behaviors, and psychological capital. The study also examined the relationship between followership behavior(s) and leadership behavior(s) that produces the greatest positive statistical variance in psychological capital. Employing a convenience-sampling design, the study analyzed a cross-sectional data from a sample of 92 students enrolled on the USM Gulf Coast campuses. The data were collected through three standardized and validated questionnaires. PLS-SEM method using SmartPLS 3.2.7 (Ringle et al., 2015) and IBM SPSS software version 25 were used as software tools to examine the research objectives in this study. Chapter IV provides results of the study, and Chapter V discusses findings, conclusions, recommendations, and future directions for the research.

CHAPTER IV – RESULTS

This chapter provides the results of the data analysis employing the statistical procedures described in Chapter III. Study results begin with data screening, information and data handling procedure for missing data and outliers in the data set. After data screening, using descriptive statistics, the study results describe participants' demographics and study variables. Finally, PLS-SEM method examined the research objectives in the study. SPSS version 25 and SmartPLS 3.2.7 (Ringle et al., 2015) were used for data analysis. This chapter provides results for the following research objectives examined in this study.

RO1 – Describe the age and gender of participants in the study.

RO2 – Determine the relationship between perceived leadership and self-reported psychological capital.

RO3 – Determine the relationship between self-reported followership and psychological capital.

RO4 – Determine the relationship between self-reported followership and perceived leadership.

RO5 – Determine if self-reported followership and perceived leadership together, predict self-reported psychological capital.

RO6 – Determine if perceived leadership mediates the relationship between self-reported followership and psychological capital.

RO7 – Determine the relationship between self-reported followership and perceived leadership that produces the greatest positive change in self-reported psychological capital.

Data Screening

Data screening includes investigation and handling for missing data and outliers in the data set minimizing any potential error in the data analysis (Tabachnick & Fidell, 2007). The study received 100% response rate. This study received 103 responses, of which 11 responses were removed due to missing values in the variables. The investigation of outliers in the data set was conducted using Mahalanobis Distance (M-D) test (Tabachnick & Fidell, 2007). The Mahalanobis Distance (M-D) test resulted in no outliers in the data set. The final dataset included 92 useable responses, which met the required sample size calculated using G*Power software (Faul et al., 2009; Faul et al., 2007) for this study.

Assessment of Normality of the Data Distribution

This section examined normality of data distribution. Though the assumption of data normality is not required in the PLS-SEM investigation, too much deviation from the normality may bias the results (Hair et al., 2017). The normality of the data was examined using skewness, kurtosis, and Kolmogorov-Smirnov test (Hair et al., 2017; R. Kline, 2011; Tabachnick & Fidell, 2007). The excess values of skewness and kurtosis ranged between +1 and -1, meeting the criteria of normality of data distribution (Hair et al., 2017). Kolmogorov-Smirnov test also confirmed the normality of data distribution.

Investigation of Common-Method Bias

Since the data for this study were collected through a self-report single informant method, the data were examined for any potential common-method bias (Podsakoff et al., 2003). Harman's single one factor test was conducted by unrotated principal component analysis (PCA) on all of the scale items measuring followership, leadership, and

psychological capital. Common-method bias appears if one factor explains major variance in the data (Podsakoff et al., 2003). The results revealed 22 factors with the first factor explaining only 21.448% of the overall variance that falls below the cutoff value of 50%, indicating that the data were not affected by common-method bias (Hsing-Ming et al., 2017; Podsakoff et al., 2003).

Results of Descriptive Statistics

This section summarizes and describes participants' age, gender, and responses on the followership, leadership, and academic psychological capital measurement. The data in this study were described using minimum value, maximum value, mean, standard deviation, and frequency distribution. The survey for this study asked two demographic questions (i.e., age and gender) and responses on 80 items measuring three study variables (i.e., followership, leadership, and psychological capital). The participants' age was described using the minimum value, maximum value, mean values, and standard deviation, which is presented in Table 12. The minimum age of the participants was 18 years, maximum age was 62 years, and the mean age of the participants was 29.01 years (*SD* = 9.444). Participants' gender was described through frequency distribution. Table 13 presents the frequency distribution of participants' gender. The majority of participants were females (*n* = 50, 54.3%) followed by males (*n* = 42, 45.7%).

Table 12

Participants' Age

	Minimum	Maximum	Mean	Standard Deviation
Age	18	62	29.01	9.444

Table 13

Participants' Gender

Gender	Frequency	Percent
Male	42	45.7
Female	50	54.3

This study examined three variables (i.e., followership, leadership, and psychological capital) using an 80-item questionnaire. All three variables (i.e., followership, leadership, and psychological capital) include their first-order dimensions (or lower order components). Followership comprised of the dimensions of independent thinking and active engagement. Leadership included transformational leadership, transactional leadership, and passive/avoidant leadership. Transformational leadership consists of five sub-dimensions: idealized influence (attributes), idealized influence (behaviors), inspirational motivation, intellectual stimulation, and individualized consideration. Transactional leadership consists of two sub-dimensions: contingent reward and management by exception (active). Passive/avoidant leadership consists of two sub-dimensions: management by exception (passive) and laissez-faire. Academic psychological capital consists of four sub-dimensions: schoolwork hope, self-efficacy, resilience, and optimism. Table 14 provides descriptive statistics results including minimum value, maximum value, mean, and standard deviation of the variables in this study.

Table 14

Descriptive Statistics Results of the Participants' Responses on the Followership, Leadership, and Academic Psychological Capital

Variables	Minimum	Maximum	Mean	Standard Deviation
Followership				
IT	27	58	43.95	7.110
AE	30	60	47.21	6.386
Academic-Psychological Capital				
SWHO	18.00	36.00	29.3696	4.31638
SWSE	18.00	36.00	29.6522	4.03674
SWRE	18.00	36.00	28.6957	4.08895
SWOP	13.00	35.00	26.0652	4.72730
A_PsyCap	84.00	139.00	113.7826	13.93456
Transformational Leadership				
IA	0.75	4.00	3.2192	0.67629
IB	0.00	4.00	2.9701	0.79620
IM	1.50	4.00	3.3759	0.62709
IS	1.50	4.00	3.1639	0.66328
IC	1.50	4.00	3.0788	0.61341
Transactional Leadership				
CR	1.25	4.00	3.2717	0.59619
MBEA	0.00	3.75	1.8361	0.93398
Passive/Avoidant Leadership				
MBEP	0.00	3.25	1.0326	0.80197
LF	0.00	2.50	0.4928	0.61964

(Continued)

Table 14 (Continued)

Variables	Minimum	Maximum	Mean	Standard Deviation
TFL	1.100	4.000	3.16160	0.575680
TL	0.750	3.875	2.55389	0.570019
PAL	0.000	2.380	0.76270	0.593790

Note. IT refers to independent thinking. AE refers to active engagement. SWHO refers to schoolwork hope. SWSE refers to schoolwork self-efficacy. SWRE refers to schoolwork resilience. SWOP refers to schoolwork optimism. A_PsyCap refers to academic psychological capital. IA refers to idealized influence (attributes). IB refers to idealized influence (behaviors). IM refers to inspirational motivation. IS refers to intellectual stimulation. IC refers to individual consideration. CR refers to contingent reward. MBEA refers to management by exception (active). MBEP refers to management by exception (passive). LF refers to laissez-faire. TFL refers to transformational leadership. TL refers to transactional leadership. PAL refers to passive/avoidant leadership.

The self-reported mean value of independent thinking dimension of followership was slightly higher (M = 47.21, SD = 6.386) than the mean value of active engagement (M = 43.95, SD = 7.110). The self-reported mean score on the schoolwork hope (M = 29.3696, SD = 4.31638) and self-efficacy (M = 29. 6522, SD = 4.03674) were slightly higher than the schoolwork resilience (M = 28.0652, SD = 4.72730). The self-reported mean score on the schoolwork optimism (M = 26.0652, SD = 4.72730) was the lowest within the dimensions of academic psychological capital. An overall self-reported mean score of academic psychological capital was 113.7826 with a standard deviation of 13.93456. Transformational leadership of the instructors was a more frequently perceived leadership behavior (M = 3.1616, SD = 0.57568) followed by transactional leadership (M = 2.55389, SD = 0.570019) and passive/avoidant leadership (M = 0.7627, SD = 0.59379). Within the perceived dimensions of transformational leadership, the mean score on the inspirational motivation was the highest (M = 3.3795, SD = 0.62079) followed by the mean scores on idealized influence (attributes) (M = 3.2192, SD = 0.67629), intellectual stimulation (M = 3.1639, SD = 0.66328), individualized

consideration (*M* = 3.0788, *SD* = 0.61341), and idealized influence (behaviors) (*M* = 2.9701, *SD* = 0.79620). Within the perceived dimensions of transactional leadership, the mean score on the contingent reward (*M* = 3.2717, *SD* = 0.59619) dimension was higher than the mean score on the management by exception (active) (*M* = 1.8361, *SD* = 0.93398) dimension. Within the perceived dimensions of passive/avoidant leadership, the mean score on the management by exception (passive) (*M* = 1.0326, *SD* = 0.80197) dimension was higher than the mean score on the laissez-faire (*M* = 0.4928, *SD* = 0.616964) dimension.

Results of the Partial Least Squares Structural Equation Modeling

This section of data analysis used PLS-SEM technique to examine the research objectives 2, 3, 4, 5, 6, and 7 forming six hypothesized analytical models. The data analysis was conducted in two phases. The first phase of the data analysis examined the measurement model (or outer model) that included the investigation of reliability and validity of the constructs (Hair et al., 2017). The second phase of the data analysis examined the structural model (or inner model) that investigated the relationships between the latent variables (Hair et al., 2017).

Measurement Model Assessment

The structural equation model of this study included 6 latent variables: independent thinking, active engagement, transformational leadership, transactional leadership, passive/avoidant leadership, and academic psychological capital. Independent thinking and active engagement are the dimensions of the followership, which were measured as the first-order constructs or the lower order components (LOC; Hair et al., 2017). Transformational leadership, transactional leadership, and

passive/avoidant leadership were examined as the second-order constructs or the higher-order components (HOCs) containing LOCs (Hair et al., 2017). The HOC of transformational leadership included five LOCs (i.e., idealized influence [attributes], idealized influence [behaviors], inspirational motivation, intellectual stimulation, and individualized consideration). The HOC of transactional leadership included two LOCs (i.e., contingent reward and management-by-exception [active]). The HOC of passive/avoidant leadership included two LOCs (i.e., management-by-exception [passive] and laissez-faire). The HOC of academic psychological capital included four LOCs (i.e., schoolwork hope, self-efficacy, resilience, and optimism). The measurement model was examined with the combination of repeated indicator (Wold, 1982) and two-stage approach (Becker et al., 2012; Hair et al., 2017; Wetzels et al., 2009). The reliability and validity of the LOCs were examined using the repeated indicator approach (Wold, 1982). The latent variables of LOCs were used as the indicators of the HOCs investigating the reliability and validity of the HOCs (Becker et al., 2012; Hair et al., 2017; Wetzels et al., 2009). Loadings of the indicators with LOCs were examined as the first-order loadings, and the loadings of LOCs with HOCs were examined as the second-order loadings (Wetzels et al., 2009). The criteria for the investigation of the loadings were same for both the first-order loadings and second-order loadings (Hair et al., 2017).

Indicator Reliability. Indicator reliability measures the amount of explained variance in an item by a variable (Hair et al., 2017). Indicator reliability is measured by outer loadings that should be greater than .708 (Hair et al., 2017). The indicators with loadings between .40 and .70 have been considered for removal from the scale only if deleting the indicator led to an increase in the composite reliability (or the average

variance extracted) above the threshold value (Hair et al., 2017). Indicators with loadings below .40 were removed from the constructs (Hair et al., 2011). The purpose of the analysis was to establish a parsimonious model.

The final measurement model of the academic psychological capital included three indicators loading on the schoolwork hope, three indicators loading on the schoolwork self-efficacy, three indicators loading on the schoolwork resilience, and three indicators loading on the schoolwork optimism. The final model of transformational leadership included three indicators loading on the idealized influence (attributes), three indicators loading on the idealized influence (behavior), two indicators loading on the inspirational motivation, three indicators loading on the intellectual stimulation, and two indicators loading on the individualized consideration. The final measurement model of transactional leadership included three indicators loading on the contingent reward dimension. Management by exception (active) did not emerge as a dimension of the transactional leadership. The results of factor loading with transactional leadership match with the studies conducted by Luo, Wang, and Marnburg (2013) and Bass, Avolio, Jung, and Berson (2003). The final measurement model of passive/avoidant leadership included three indicators loading on the laissez-faire and three indicators loading on the management by exception (passive) dimension. The final measurement model of the independent thinking included four indicators and the active engagement included three indicators. Few factors in the study contained less than the commonly recommended three indicators. Though the commonly recommended minimum numbers of indicators per factors are three, the PLS-SEM technique is less restrictive in case of numbers of indicators per factors (Hair et al., 2011). R. Kline (2011) argues that the number of

indicators may be two in the case of a multidimensional variable. The criteria used for the investigation of the LOCs factor structure have also been applied in the investigation of the HOCs factor structure. Table 15 presents indicator loadings for first-order constructs (LOCs) and Table 16 presents indicator loadings for second-order constructs (HOCs).

Internal Consistency. Internal consistency was examined by calculating the composite reliability of the constructs (Hair et al., 2017). All the variables (i.e., followership, leadership, and psychological capital) in this study showed acceptable values of composite reliability above .70 (Nunnally & Bernstein, 1994) and below .95 (Hair et al., 2017). Table 15 presents composite reliability values of LOCs and Table 16 presents composite reliability values of HOCs.

Convergent Validity. The convergent validity was measured by calculating the average variance extracted values (AVE; Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hair et al., 2017). The AVE value should be greater than .50 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hair et al., 2017). The results of this study showed acceptable values of AVE. Table 15 and Table 16 present convergent validity of the variables.

Discriminant Validity. The investigation of discriminant validity was conducted using cross-loadings (i.e., correlation) and Fornell and Larcker (1981) criterion. In the cross-loadings method, the indicators' outer loadings should be greater than its cross-loadings on other constructs (Hair et al., 2017). All the indicators have the highest loading with the respective variables in this study. The results of this study showed no cross loadings presented in Table 17. Fornell and Larcker (1981) criterion "compares the square root of AVE values with latent variable correlations...and the square root of each

construct's AVE should be greater than its correlation with other constructs" (Hair et al., 2017, p. 115-116). The results of this study support discriminant validity. Table 18 presents Fornell and Larcker (1981) criterion.

Table 15

First-Order Construct Reliability and Validity

Constructs	Indicators	Loadings	Composite Reliability	AVE
Followership				
IT			0.857	0.600
	IT2	0.824		
	IT4	0.795		
	IT5	0.715		
	IT6	0.761		
AE			0.834	0.628
	AE4	0.814		
	AE7	0.683		
	AE10	0.869		
Transformational Leadership				
IA			0.827	0.615
	IA1	0.813		
	IA2	0.786		
	IA3	0.753		
IB			0.876	0.703
	IB2	0.840		
	IB3	0.780		
	IB4	0.891		

(Continued)

Table 15 (Continued)

Constructs	Indicators	Loadings	Composite Reliability	AVE
IS			0.854	0.662
	IS1	0.820		
	IS3	0.860		
	IS4	0.759		
IC			0.863	0.759
	IC1	0.848		
	IC4	0.893		
IM			0.844	0.730
	IM2	0.846		
	IM4	0.863		
Transactional Leadership				
CR			0.765	0.523
	CR1	0.803		
	CR2	0.645		
	CR3	0.711		
Passive/Avoidant Leadership				
LF			0.782	0.547
	LF1	0.763		
	LF3	0.803		
	LF4	0.642		
MBEP			0.822	0.607
	MBEP1	0.735		
	MBEP2	0.741		
	MBEP4	0.855		
Academic-Psychological Capital				
SWHO			0.889	0.728
	HO2	0.846		
	HO4	0.856		
	HO5	0.858		

(Continued)

Table 15 (Continued)

Constructs	Indicators	Loadings	Composite Reliability	AVE
SWSE			0.902	0.754
	SE1	0.824		
	SE2	0.894		
	SE3	0.886		
SWRE			0.848	0.651
	RE2	0.781		
	RE5	0.807		
	RE6	0.832		
SWOP			0.901	0.753
	OP1	0.765		
	OP3	0.928		
	OP4	0.901		

Note. IT refers to independent thinking. AE refers to active engagement. SWHO refers to schoolwork hope. SWSE refers to schoolwork self-efficacy. SWRE refers to schoolwork resilience. SWOP refers to schoolwork optimism. A_PsyCap refers to academic psychological capital. IA refers to idealized influence (attributes). IB refers to idealized influence (behaviors). IM refers to inspirational motivation. IS refers to intellectual stimulation. IC refers to individual consideration. CR refers to contingent reward. MBEP refers to management by exception (passive). LF refers to laissez-faire. AVE refers to average variance extracted.

Table 16

Second-Order Construct Reliability and Validity

Second order construct	First order construct	Loadings	Composite Reliability	AVE
Leadership				
TFL			0.933	0.737
	IA	0.920		
	IB	0.827		
	IC	0.861		
	IM	0.857		
	IS	0.823		
TL			1.000	1.000
	CR	1.000		

(Continued)

Table 16 (Continued)

Second order construct	First order construct	Loadings	Composite Reliability	AVE
PAL			0.840	0.727
	LF	0.940		
	MBEP	0.755		
A_PsyCap			0.868	0.622
	SWHO	0.818		
	SWOP	0.719		
	SWRE	0.829		
	SWSE	0.783		

Note. IA refers to idealized influence (attributes). IB refers to idealized influence (behaviors). IC refers to individual consideration. IM refers to inspirational motivation. IS refers to intellectual stimulation. CR refers to contingent reward. LF refers to laissez-faire. MBEP refers to management by exception (passive). TFL refers to transformational leadership. TL refers to transactional leadership. PAL refers to passive/avoidant leadership. SWHO refers to schoolwork hope. SWOP refers to schoolwork optimism. SWRE refers to schoolwork resilience. SWSE refers to schoolwork self-efficacy. A_PsyCap refers to academic psychological capital. AVE refers to average variance extracted.

Table 17

Discriminant Validity (Cross-Loadings)

	AE	CR	IA	IB	IC	IM	IS	IT	LF	MBEP	SWHO	SWOP	SWRE	SWSE
AE10	0.869	0.332	0.499	0.229	0.427	0.331	0.341	0.554	-0.282	-0.222	0.451	0.397	0.486	0.409
AE4	0.814	0.420	0.402	0.194	0.413	0.327	0.277	0.659	-0.340	-0.263	0.429	0.399	0.341	0.371
AE7	0.683	0.215	0.259	0.124	0.241	0.260	0.170	0.428	-0.237	-0.096	0.423	0.268	0.368	0.291
CR1	0.422	0.803	0.515	0.403	0.445	0.460	0.429	0.330	-0.336	-0.159	0.223	0.241	0.227	0.241
CR2	0.161	0.645	0.302	0.309	0.235	0.276	0.247	0.158	-0.024	-0.037	0.061	0.145	0.129	0.151
CR3	0.294	0.711	0.531	0.457	0.507	0.499	0.432	0.269	-0.295	-0.118	0.165	0.210	0.258	0.186
HO2	0.338	0.143	0.219	0.261	0.268	0.289	0.162	0.285	-0.099	0.008	0.846	0.351	0.380	0.325
HO4	0.442	0.095	0.153	0.052	0.205	0.153	0.131	0.362	-0.089	-0.002	0.856	0.377	0.439	0.368
HO5	0.576	0.285	0.421	0.376	0.532	0.403	0.286	0.467	-0.215	-0.035	0.858	0.536	0.533	0.618
IA1	0.399	0.562	0.813	0.604	0.487	0.519	0.532	0.203	-0.054	-0.154	0.293	0.198	0.227	0.324
IA2	0.441	0.388	0.786	0.655	0.607	0.557	0.583	0.421	-0.149	-0.035	0.226	0.342	0.279	0.362
IA3	0.336	0.540	0.753	0.557	0.647	0.643	0.494	0.207	-0.214	-0.152	0.249	0.327	0.253	0.190
IB2	0.249	0.419	0.679	0.840	0.565	0.650	0.531	0.308	-0.125	0.012	0.308	0.224	0.197	0.269
IB3	0.147	0.451	0.591	0.780	0.424	0.435	0.387	0.049	-0.083	0.053	0.070	0.156	0.105	0.163
IB4	0.190	0.496	0.670	0.891	0.560	0.592	0.525	0.198	-0.056	0.059	0.301	0.266	0.183	0.237
IC1	0.383	0.536	0.591	0.505	0.848	0.521	0.417	0.348	-0.323	-0.224	0.340	0.313	0.306	0.410
IC4	0.428	0.442	0.695	0.574	0.893	0.556	0.656	0.401	-0.209	-0.112	0.377	0.340	0.221	0.363
IM2	0.374	0.565	0.608	0.514	0.497	0.846	0.600	0.369	-0.346	-0.255	0.254	0.320	0.375	0.320
IM4	0.293	0.425	0.641	0.636	0.559	0.863	0.546	0.213	-0.185	-0.049	0.328	0.348	0.218	0.118
IS1	0.201	0.522	0.527	0.419	0.467	0.498	0.820	0.318	-0.159	-0.032	0.116	0.153	0.207	0.169

(Continued)

Table 17 (Continued)

	AE	CR	IA	IB	IC	IM	IS	IT	LF	MBEP	SWHO	SWOP	SWRE	SWSE
IS3	0.303	0.360	0.567	0.485	0.530	0.522	0.860	0.325	-0.141	0.011	0.223	0.220	0.165	0.188
IS4	0.321	0.392	0.574	0.505	0.525	0.609	0.759	0.302	-0.140	-0.018	0.229	0.193	0.158	0.216
IT2	0.623	0.350	0.296	0.146	0.313	0.209	0.242	0.824	-0.248	-0.149	0.297	0.304	0.337	0.413
IT4	0.524	0.225	0.191	0.150	0.341	0.221	0.212	0.795	-0.138	-0.040	0.325	0.413	0.398	0.481
IT5	0.525	0.090	0.208	0.102	0.279	0.241	0.339	0.715	-0.196	-0.157	0.280	0.240	0.389	0.304
IT6	0.504	0.381	0.377	0.282	0.386	0.355	0.398	0.761	-0.270	-0.035	0.449	0.348	0.343	0.409
LF1	-0.358	-0.166	-0.098	-0.053	-0.234	-0.204	-0.049	-0.250	0.763	0.441	-0.138	-0.067	-0.247	-0.099
LF3	-0.268	-0.315	-0.226	-0.165	-0.316	-0.279	-0.276	-0.231	0.803	0.393	-0.143	-0.031	-0.266	-0.191
LF4	-0.155	-0.235	-0.051	0.008	-0.078	-0.197	-0.058	-0.120	0.642	0.207	-0.075	-0.166	-0.126	-0.116
MBEP1	-0.318	-0.133	-0.188	-0.005	-0.206	-0.167	-0.035	-0.278	0.432	0.735	-0.050	-0.096	-0.112	-0.065
MBEP2	-0.042	-0.128	-0.073	-0.043	-0.062	-0.168	0.010	0.099	0.331	0.741	0.047	-0.005	0.097	0.182
MBEP4	-0.218	-0.095	-0.071	0.147	-0.160	-0.078	-0.008	-0.069	0.369	0.855	-0.022	-0.036	-0.145	-0.013
OP1	0.344	0.288	0.247	0.131	0.289	0.153	0.175	0.328	-0.022	-0.018	0.252	0.765	0.358	0.294
OP3	0.424	0.253	0.359	0.309	0.337	0.438	0.229	0.414	-0.133	-0.074	0.476	0.928	0.412	0.256
OP4	0.411	0.201	0.348	0.224	0.349	0.393	0.201	0.365	-0.109	-0.060	0.554	0.901	0.437	0.294
RE2	0.443	0.342	0.232	0.104	0.245	0.228	0.127	0.452	-0.271	-0.099	0.442	0.435	0.781	0.503
RE5	0.339	0.133	0.270	0.175	0.274	0.309	0.207	0.331	-0.183	0.009	0.369	0.378	0.807	0.471
RE6	0.428	0.212	0.282	0.200	0.203	0.298	0.192	0.346	-0.265	-0.094	0.485	0.312	0.832	0.474
SE1	0.323	0.178	0.291	0.230	0.414	0.146	0.251	0.436	-0.215	0.009	0.482	0.240	0.429	0.824
SE2	0.505	0.309	0.402	0.250	0.403	0.292	0.249	0.468	-0.137	0.059	0.486	0.365	0.594	0.894
SE3	0.342	0.206	0.269	0.222	0.332	0.210	0.111	0.461	-0.131	0.020	0.416	0.221	0.526	0.886

Note. AE refers to active engagement. CR refers to contingent reward. IA refers to idealized influence (attributes). IB refers to idealized influence (behaviors). IC refers to individual consideration. IM refers to inspirational motivation. IS refers to intellectual stimulation. IT refers to independent thinking. LF refers to laissez-faire. MBEP refers to management by exception (passive). SWHO refers to schoolwork hope. SWOP refers to schoolwork optimism. SWRE refers to schoolwork resilience. SWSE refers to schoolwork self-efficacy. Highlighted values represent highest loadings.

Table 18

Discriminant Validity (Fornell-Larcker Criterion)

	AE	CR	IA	IB	IC	IM	IS	IT	LF	MBEP	SWHO	SWOP	SWRE	SWSE
AE	**0.793**													
CR	0.418	**0.723**												
IA	0.501	0.631	**0.785**											
IB	0.236	0.542	0.773	**0.838**										
IC	0.467	0.556	0.742	0.621	**0.871**									
IM	0.389	0.577	0.731	0.675	0.619	**0.855**								
IS	0.341	0.519	0.685	0.579	0.626	0.670	**0.814**							
IT	0.700	0.358	0.357	0.231	0.431	0.338	0.388	**0.775**						
LF	-0.365	-0.319	-0.178	-0.105	-0.300	-0.308	-0.180	-0.280	**0.739**					
MBEP	-0.256	-0.152	-0.143	0.048	-0.187	-0.174	-0.016	-0.116	0.486	**0.779**				
SWHO	0.544	0.215	0.326	0.282	0.413	0.341	0.235	0.446	-0.165	-0.014	**0.853**			
SWOP	0.455	0.279	0.371	0.261	0.376	0.391	0.233	0.426	-0.106	-0.061	0.506	**0.868**		
SWRE	0.502	0.287	0.324	0.197	0.298	0.344	0.217	0.468	-0.299	-0.078	0.537	0.466	**0.807**	
SWSE	0.455	0.270	0.373	0.270	0.441	0.253	0.236	0.524	-0.183	0.036	0.531	0.322	0.599	**0.869**

Note. AE refers to active engagement. CR refers to contingent reward. IA refers to idealized influence (attributes). IB refers to idealized influence (behaviors). IC refers to individual consideration. IM refers to inspirational motivation. IS refers to intellectual stimulation. IT refers to independent thinking. LF refers to laissez-faire. MBEP refers to management by exception (passive). SWHO refers to schoolwork hope. SWOP refers to schoolwork optimism. SWRE refers to schoolwork resilience. SWSE refers to schoolwork self-efficacy. Highlighted values in diagonal are square root of average variance extracted (AVE) and correlations are off-diagonal.

Structural Model Assessment

The structural model assessment examined the relationships between the constructs and the predictive capability of the model (Hair et al., 2017). The purpose of this study was to determine a parsimonious model of the relationships between followership behaviors, leadership behaviors, and psychological capital. The assessment of the structural model was conducted employing the following steps (Hair et al., 2017).

Step 1: Assess structural model for collinearity issues

Step 2: Assess the significance and relevance of the structural model relationships

Step 3: Assess the level of R^2

Step 4: Assess the effect sizes f^2

Step 5: Assess the predictive relevance Q^2

Step 6: Assess the q^2 effect sizes

Collinearity Assessment. According to Hair et al. (2010), collinearity "occurs when any single independent variable is highly correlated with a set of other independent variables" (p. 143). A rise in multicollinearity "complicates the interpretation of the variate as it is more difficult to ascertain the effect of any single variable, owing to their relationships" (Hair et al., 1998, p. 2). According to Hair et al. (2017), there is a "need to examine each set of predictor construct for each subpart of the structural model" (p. 192). Multicollinearity was evaluated by calculating the tolerance (TOL) and variance inflation factor (VIF). VIF computes the variances of the estimated coefficients (Hair et al., 2017). Hair et al. (2017) suggests that VIF above 5.00 and tolerance levels below .20 in the predictor constructs implies high collinearity. The results of this study meet the criteria

for no collinearity (Hair et al., 2017; Henseler et al., 2009). The tolerance values were above .40 and VIFs were below 2.277. Table 19 presents collinearity statistics.

Table 19

Collinearity Statistics

	A_PsyCap		TFL		TL		PAL		A_PsyCap		A_PsyCap	
Variables	TOL	VIF	TOL	VIF	TOL	VIF	TOL	VIF	TOL	VIF	TOL	VIF
Followership												
AE	0.439	2.277	0.510	1.962	0.510	1.962	0.510	1.962	0.510	1.962		
IT	0.498	2.006	0.510	1.962	0.510	1.962	0.510	1.962	0.510	1.962		
Leadership												
PAL	0.845	1.183									0.923	1.083
TFL	0.525	1.906									0.565	1.769
TL	0.532	1.879									0.543	1.842

Note. Endogenous constructs appear on the first row while the exogenous constructs appear on the first column. TOL refers to tolerance. VIF refers to variance inflation factor. AE refers to active engagement. IT refers to independent thinking. PAL refers to passive/avoidant leadership. TFL refers to transformational leadership. TL refers to transactional leadership. A_PsyCap refers to academic psychological capital.

Path Coefficient. Path coefficients were computed to examine the relationships between the constructs (Hair et al., 2017). The significance levels of path coefficients were computed using a non-parametric bootstrapping procedure (Henseler et al., 2009). The bootstrap *t*-statistics were computed with 5000 resamples (Preacher & Hayes 2008). The *t*-values were used to evaluate the statistical significance of each path coefficient (Hair et al., 2017). Critical *t*-value for a two-tailed test is 1.96 at the .05 significance level (Hair et al., 2017). Table 20 presents the results of the bootstrapping procedure.

Table 20

Path Coefficients

Path	Coefficient	T Statistics	P Values
AE -> A_PsyCap	0.363	2.923	**0.003**
AE -> PAL	-0.384	3.076	**0.002**
AE -> TFL	0.348	2.844	**0.004**
AE -> TL	0.328	2.843	**0.004**
IT -> A_PsyCap	0.274	2.246	**0.025**
IT -> PAL	0.016	0.119	0.905
IT -> TFL	0.171	1.383	0.167
IT -> TL	0.128	1.010	0.312
PAL -> A_PsyCap	0.057	0.534	0.593
TFL -> A_PsyCap	0.238	2.826	**0.005**
TL -> A_PsyCap	-0.057	0.695	0.487

Note. Highlighted p values are significant on two tailed p values < .05. AE refers to active engagement. IT refers to independent thinking. PAL refers to passive/avoidant leadership. TFL refers to transformational leadership. TL refers to transactional leadership. A_PsyCap refers to academic psychological capital.

The path coefficients of active engagement to psychological capital (β = .363, t = 2.923, p < .05), active engagement to passive/avoidant leadership (β = -.384, t = 3.076, p < .05), active engagement to transformational leadership (β = .348, t = 2.844, p < .05),

active engagement to transactional leadership (β = .328, t = 2.843, p < .05), independent thinking to academic psychological capital (β = .274, t = 2.246, p < .05), and transformational leadership to academic psychological capital (β = .238, t = 2.826, p < .05) were significant. The path coefficient results revealed that only active engagement dimension of followership has a significant relationship with transformational leadership. Active engagement shows a negative relationship with passive/avoidant leadership. Independent thinking failed to demonstrate a significant relationship with leadership. Active engagement and independent thinking were significantly positively related with psychological capital. Among the three leadership behaviors (i.e., transformational, transactional, and passive/avoidant leadership), only transformational leadership showed a significant relationship with psychological capital. The insignificant relationships were dropped from further analysis.

Coefficient of Determination. The coefficient of determination "represents the amount of variance in the endogenous constructs explained by all of the exogenous constructs inked to it" (Hair et al., 2017, p. 198). The R^2 values of .25, .50, and .75 describe a weak, moderate, and strong coefficient of determination (Hair et al., 2017). The results of this study showed between weak to moderate R^2 values (Hair et al., 2017). Active engagement, independent thinking, and transformational leadership, jointly produce 46.5% variance in the academic psychological capital. Active engagement and independent thinking jointly produce a variance of 43.4% in the academic psychological capital. Active engagement, alone produces 38.7% variance in academic psychological capital, 22.4% variance in transformational leadership, 17.4% variance in transactional leadership, and 14% variance in passive/avoidant leadership. Independent thinking alone

produces 35.4% variance in academic psychological capital. Transformational leadership, alone produces a variance of 22.4% in the academic psychological capital. Among all significant variable combinations, the active engagement, independent thinking, and transformational leadership, jointly produce the maximum variance in the academic psychological capital. Table 21 presents coefficient of determination.

Table 21

R^2 Values

Variables	A_PsyCap	A_PsyCap	A_PsyCap	TFL	TL	PAL
AE			0.387	0.224	0.174	0.140
IT	0.465	0.434	0.354			
TFL			0.224			

Note. Endogenous constructs appear on the first row while the exogenous constructs appear on the first column. AE refers to active engagement. IT refers to independent thinking. A_PsyCap refers to academic psychological capital. TFL refers to transformational leadership.

Effect Size (f^2). The f^2 was computed to examine the effect size. The effect size was calculated for each of the significant path coefficient. Effect size f^2 was computed by deleting a specific construct from the model and examining the change in R^2 values (Hair et al., 2017). Effect size f^2 values of .02, .15, and .35 respectively indicate small, medium, and large effect sizes (Cohen, 1988). The f^2 values in this study fall between the small and medium effect (Cohen, 1988). Table 22 presents effect sizes.

Table 22

Effect Size (f^2)

Variables	A_Psycap	TFL	TL	PAL
AE	0.107547	0.079634	0.067319	0.077816
IT	0.067925			
TFL	0.056604			

Note. Endogenous constructs appear on the first row while the exogenous constructs appear on the first column. AE refers to active engagement. IT refers to independent thinking. A_PsyCap refers to academic psychological capital. TFL refers to transformational. PAL refers to passive/avoidant leadership. TL refers to transactional leadership.

Predictive Relevance. Stone-Geisser's predictive relevance (Q^2) was computed to examine the predictive relevance of each model (Geisser, 1974; Stone, 1974; Hair et al., 2017). The blindfolding procedure was used to compute Q^2 (Hair et al., 2017). A Q^2 value greater than zero demonstrates good predictive relevance (Chin, 1998). The results of this study show Q^2 values greater than zero, which represents the acceptable predictive relevance of the models (Chin, 1998). Table 23 presents predictive relevance values.

Table 23

Predictive Relevance (Q^2)

Variables	Q^2
A_PsyCap	0.252
PAL	0.071
TFL	0.155
TL	0.168

Note. Endogenous constructs appear on the first column. A_PsyCap refers to academic psychological capital. TFL refers to transformational. PAL refers to passive/avoidant leadership. TL refers to transactional leadership.

Effect Size (q^2). The effect size q^2 was calculated to examine "the relative impact of predictive relevance" (Hair et al., 2017, p. 207). Effect size q^2 "values of .02, .15, and .35 indicate that an exogenous construct has a small, medium, or large predictive

relevance respectively, for a specific endogenous construct" (Hair et al., 2017, p. 208). The q^2 values in this study fall between small to medium predictive relevance (Hair et al., 2017). Table 24 presents q^2 effect sizes.

Table 24

Effect Size (q^2)

Variables	A_Psycap	TFL	TL	PAL
AE	0.043130	0.045687	0.056396	0.051130
IT	0.029757			
TFL	0.019058			

Note. Endogenous constructs appear on the first row while the exogenous constructs appear on the first column. IT refers to independent thinking. AE refers to active engagement. TFL refers to transformational leadership. TL refers to transactional leadership. PAL refers to passive/avoidant leadership. PsyCap refers to psychological capital.

Mediation Analysis

The mediation analysis was conducted following the guidelines presented by Zhao et al. (2010). First, the significance of indirect effect was examined using the bootstrap procedure (Preacher & Hayes, 2008). Second, the type of mediation was examined by investigating the significance and direction of direct and indirect effects (Zhao et al., 2010). The result showed that transformational leadership mediates the relationship between active engagement and psychological capital. Since, both the mediated effect and direct effect were significant and positive; there was a complimentary mediation in the model. Table 25 presents mediation analysis results.

Table 25

Mediation Analysis

Path	Path Coefficients	T Statistics	P Values
AE -> A_PsyCap	0.515	6.365	0.000
AE -> TFL	0.469	6.166	0.000
TFL -> A_PsyCap	0.228	2.532	0.011

Note. *T*-statistics > 1.96 are significant at $p < .05$ (two-tailed). AE refers to active engagement. TFL refers to transformational leadership. A_PsyCap refers to academic psychological capital.

In summary, this chapter provided statistical results of descriptive statistics and PLS-SEM. Data analysis was conducted using SPSS version 25 and SmartPLS 3.2.7 (Ringle et al., 2015). A total of 92 useable responses were analyzed in the data set. The data set included two demographic variables (i.e., participants' age and gender) and 80 items measuring followership, leadership, and academic psychological capital. The data analysis began with data screening followed by the investigation of research objective in the study. Chapter V provides findings, conclusion, and recommendations.

CHAPTER V – FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this quantitative study was to examine the relationship between followership, leadership, and psychological capital, and the potential of this relationship to serve as a mechanism for leadership development and effectiveness. The study examined followership as a predictor and psychological capital as an outcome variable of leadership in an instructor-student relationship in a university setting. The study also examined a combination of relationships between followership and leadership behaviors to determine the relationship that brings maximum positive variance in psychological capital.

Findings

The results of the study reveal that transformational leadership is the most perceived leadership behavior of instructors followed by transactional and passive/avoidant leadership behaviors. Instructors' transformational leadership behaviors also have significant positive effects on students' psychological capital. Instructors' transactional and passive/avoidant leadership behaviors did not significantly predict students' psychological capital.

The study finds student followership as a significant predictor of their psychological capital. However, the effect of the students' active engagement was greater than the effect of independent thinking. Students' with higher levels of engagement and independent thinking also have higher levels of psychological capital. The study also finds a relationship between student followership and instructors' leadership behaviors. The results showed that students' active engagement significantly predicts instructors' transformational, transactional, and passive/avoidant leadership.

However, the effect of students' active engagement was greater on the instructors' transformational leadership than the effect on instructors' transactional leadership. Students' active engagement showed a negative effect on instructors' passive/avoidant leadership. Students' independent thinking did not show a significant effect on instructors' transformational, transactional, and passive/avoidant leadership.

Examining multiple combinations of significant relationships between student followership, instructor leadership, and students' psychological capital, the study finds that students' active engagement and independent thinking along with instructors' transformational leadership bring maximum variance in students' psychological capital. The study also finds instructors' transformational leadership as a mediator in the relationship between students' active engagement and psychological capital.

Conclusions

The results of this study contribute to the research and practice of followership, leadership, and psychological capital. This study addressed a gap regarding followership in the leadership literature and examined followership as an independent variable of leadership. The study also examined followers' psychological capital as a new measure of leadership effectiveness.

The study affirms that a one-size fits all approach of leadership is ineffective in producing positive individual outcomes. The maximum positive effect of active engagement on transformational leadership and maximum positive effect of transformational leadership on psychological capital affirms that transformational leadership is the most effective leadership behavior. Passive/avoidant leadership is the

most ineffective leadership behavior among transformational and transactional leadership.

The investigation of followership behaviors adds value to the literature and enhances understanding about choosing and developing leadership behaviors that have positive effects on psychological capital. The relationship between followership, leadership, and psychological capital has the potential to serve as a mechanism for leadership development and effectiveness. The new mechanism for leadership development and effectiveness can comprise of followership behaviors as an input and psychological capital as an outcome of leadership.

Recommendations

The study recommends that instructors should demonstrate transformational leadership behaviors that will further enhance students' psychological capital. Transformational leaders guide, motivate, and develop followers that further enhance followers' positive psychological resources. Leaders should provide individualized attention to their followers and help them overcome weaknesses to achieve objectives. Instructors should also provide opportunities for enhancing students' engagement and independent thinking, which could have positive effects on students' psychological capital resulting in the students' chances to thrive and succeed in the college environment. Leaders should strive to demonstrate transactional leadership behaviors because the rewarding behaviors are necessary to maintain followers' commitment and engagement with their task. However, leaders should be careful in deciding the combination of transformational and transactional behaviors. More demonstration of transformational behaviors including guiding and setting visions with a strategic

combination of transactional behaviors including rewards could enhance followers' positive psychological strengths and outcomes.

Organizations and colleges should work to find ways of enhancing followers' (and students') engagement and independent thinking to enhance their psychological capital, which could have positive effects on outcomes. The study recommends organizations and colleges to design followership development programs along with leadership development programs. Effective followership behaviors can enhance effectiveness of leadership leading to superior individual and organizational outcomes.

Organizations and higher education institutions should promote and develop transformational leadership behaviors of their leaders and instructors to enhance followers' (and students') positive outcomes. The study provides a new mechanism for leadership development and effectiveness that can be applied in designing leadership development programs. The mechanism for leadership development and effectiveness examined in this study can also be applied in designing leader (and instructor) assessment frameworks. Followers' psychological capital can serve as a new measure of leadership effectiveness.

Directions for Future Research

The study provides directions for future research. Future researchers should examine the relationships between followership, leadership, and psychological capital in organizational settings. Studies can also use multilevel models, and examine the effects of participants' gender, age, culture, and instructors' gender in the relationship between followership, leadership, and psychological capital. Since, no known survey is available to examine student followership; future studies should consider developing a measure of

followership behavior for student populations. Studies should also identify the most effective followership behavior(s) that fit with student populations resulting in desirable student outcomes.

Since the relationship between leaders and followers evolve over a time, a longitudinal study may provide in depth information about the relationships between the variables (i.e., followership, leadership, and psychological capital) in this study, which could further help in designing leadership development programs. Studies conducted in organizational settings could compare the relationship between the study variables in intact and emerging teams; while in the educational settings, the results could be compared between the students' first time taking a course with an instructor and the students who have already taken few courses with the same instructor. The study could be further examined using a larger population from different universities and organizations.

Summary

In summary, the study fills existing gaps in the literature, and provides empirical evidence about the relationship between followership, leadership, and psychological capital. The predictive ability of followership in explaining leadership adds value to the literature. The study serves as a foundation for the investigation of a new mechanism for leadership development and effectiveness consisting of the relationship between followership, leadership, and psychological capital that could be applied in organizational and educational settings in developing leadership and enhancing leadership effectiveness. The mechanism for leadership development and effectiveness examined in this study has

a potential to save cost, time, and efforts invested in existing leadership development programs, which can further enhance individual and organizational performance.

APPENDIX A – Consent to Participate in the Research

Dear Participants,

My name is Saurabh Gupta, and I am a doctoral candidate of Human Capital Development at The University of Southern Mississippi, Gulf Park Campus. I am conducting this research as a part of my doctoral program. You were selected as a participant in this research because you are a student of one of the campuses of The University of Southern Mississippi, Gulf Coast. Your participation is strictly voluntary and anonymous.

Purpose of the study: The purpose of this study is to learn about instructors' behaviors, your behaviors, and its influence on your strengths and capabilities.

Expectation for the participants: This study is survey-based and asks you to respond to a questionnaire. The questionnaire includes demographic questions, such as your age and gender.

There are no right or wrong answers to the questions in the questionnaire. The researcher expects that you will provide honest responses to the questions. You have complete freedom to participate or not to participate in the study. You can withdraw your participation anytime during the study. You can refuse to answer any question but can remain in the study. There is no penalty linked with the decision regarding your participation in the study.

Duration of the survey: The questionnaire will not take more than 15 minutes to complete.

Potential risks or discomforts: There are no anticipated risks or discomforts.

Potential benefits to the participants: There is no direct benefit to the respondents in this research study. However, you have a chance to win a $10 lunch coupon from the Beach View Cafe in a random drawing. The results of the study could be helpful for higher education institutions in enhancing students' positive outcomes.

Anonymity and confidentiality: The survey does not ask for any personal information. The information collected through this survey will be kept strictly confidential. The computer files will be password protected.

Questions/ Complaints: If you have any questions, comments, or concerns about the research, please contact:

Saurabh Gupta (Cell Phone:)

E-mail address:

If you wish to talk to someone other than the researcher about the study, please call the Department of Human Capital Development, The University of Southern Mississippi, Gulf Park Campus, Phone:

Thank you very much for your time and for participating in the study.

I am at least or above 18 years of age. I have read the consent form, understand the conditions, and agree to participate in this research.

Signature of the Participant_____

This project and this consent form have been reviewed by USM's Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participants should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5116, Hattiesburg, MS 39406-0001, 601-266-5997.

APPENDIX B – Request for Permission to Conduct the Survey

Greetings Gulf Park Faculty Members,

I am a doctoral candidate of Human Capital Development at the University of Southern Mississippi, Gulf Park Campus. I am currently in the dissertation phase under the mentorship of my dissertation committee chair, Dr. H. Quincy Brown.

The sample of the study includes students enrolled in The University of Southern Mississippi, Gulf Park Campus. The study does not include any intervention or clinical procedures. The data will be collected through a questionnaire containing 80 questions. The questionnaire should not take more than 15 minutes to complete. The questionnaire does not ask any personal information about the students. There is no direct benefit to the students; however, the results of the study will be helpful for higher education institutions. Participants in the study have a chance to win a $10 lunch coupon at the Beach View Cafe.

I request 15 minutes of time for the survey in the beginning or at the end of your class. I would be grateful to you for permitting me to conduct the surveys of the students.

If you have questions, comments, or concerns about the research, please contact me at,

E-mail address:

If you wish to talk to someone other than the researcher about the study, please call:

The Department of Human Capital Development, The University of Southern Mississippi, Gulf Park Campus, Phone:

Dissertation Chair: Dr. H. Quincy Brown
E-mail address:
Phone Number:

Thank you very much for your time and consideration.

Sincerely,
Saurabh Gupta

APPENDIX C – Code Book

Table 26

Code Book

	Variable	Type	Scale	Description	Values
1	Gender	Numeric	Nominal	Participant's gender	Male = 1, Female = 2
2	Age	Numeric	Scale	Participant's age during the survey	Actual age of the participants during the survey
3	Independent critical thinking, dependent uncritical thinking,	Numeric	Scale	Participants' self-reported score on the Independent critical thinking, dependent uncritical thinking dimension of followership in the followership styles questionnaire	
4	Active, passive engagement	Numeric	Scale	Participants' self-reported score on the Active, passive engagement dimension of followership in the followership styles questionnaire	
5	Idealized influence (Attributes)	Numeric	Scale	Mean score of the participants' responses on the Idealized influence (attributed) dimension of the transformational leadership in MLQ	

(Continued)

Table 26 (Continued)

	Variable	Type	Scale	Description	Values
6	Idealized influence (Behaviors)	Numeric	Scale	Mean score of the participants' responses on the Idealized influence (behavior) dimension of transformational leadership in MLQ	
7	Inspirational motivation	Numeric	Scale	Mean score of the participants' responses on the Inspirational motivation dimension of the transformational leadership in MLQ	
8	Intellectual stimulation	Numeric	Scale	Mean score of the participants' responses on the Intellectual stimulation dimension of the transformational leadership in MLQ	
9	Individualized consideration	Numeric	Scale	Mean score of the participants' responses on the Individualized consideration dimension of the transformational leadership in MLQ	

(Continued)

Table 26 (Continued)

	Variable	Type	Scale	Description	Values
10	Contingent reward	Numeric	Scale	Mean score of the participants' responses on the Contingent reward dimension of the transactional leadership in MLQ	
11	Management-by- exception (Active)	Numeric	Scale	Mean score of the participants' responses on the Management-by-exception (active) dimension of the transactional leadership in MLQ	
12	Management-by- exception (Passive)	Numeric	Scale	Mean score of the participants' responses on the Management-by-exception (passive) dimension of the passive/avoidant leadership in MLQ	
13	Laissez-faire	Numeric	Scale	Mean score of the participants' responses on the Laissez-faire dimension of the passive/avoidant leadership in MLQ	

(Continued)

Table 26 (Continued)

	Variable	Type	Scale	Description	Values
14	Schoolwork Hope	Numeric	Scale	Participants' self-reported score of the items in the Hope dimension of the psychological capital in the A-PsyCap Questionnaire	
15	Schoolwork Self-efficacy	Numeric	Scale	Participants' self-reported score of the in the Self-efficacy dimension of the psychological capital in the A-PsyCap Questionnaire	
16	Schoolwork Resilience	Numeric	Scale	Participants' self-reported score of the items in the Resilience dimension of the psychological capital in the A-PsyCap Questionnaire	
17	Schoolwork Optimism	Numeric	Scale	Participants' self-reported score of the items in the Optimism dimension of the psychological capital in the A-PsyCap Questionnaire	

(Continued)

Table 26 (Continued)

	Variable	Type	Scale	Description	Values
18	Academic Psychological capital	Numeric	Scale	Participants' self-reported score of all the items in the A-PsyCap Questionnaire	

Note. MLQ refers to multifactor leadership questionnaire. A-PsyCap refers to academic psychological capital.

APPENDIX D – Hypothesized Analytical Models

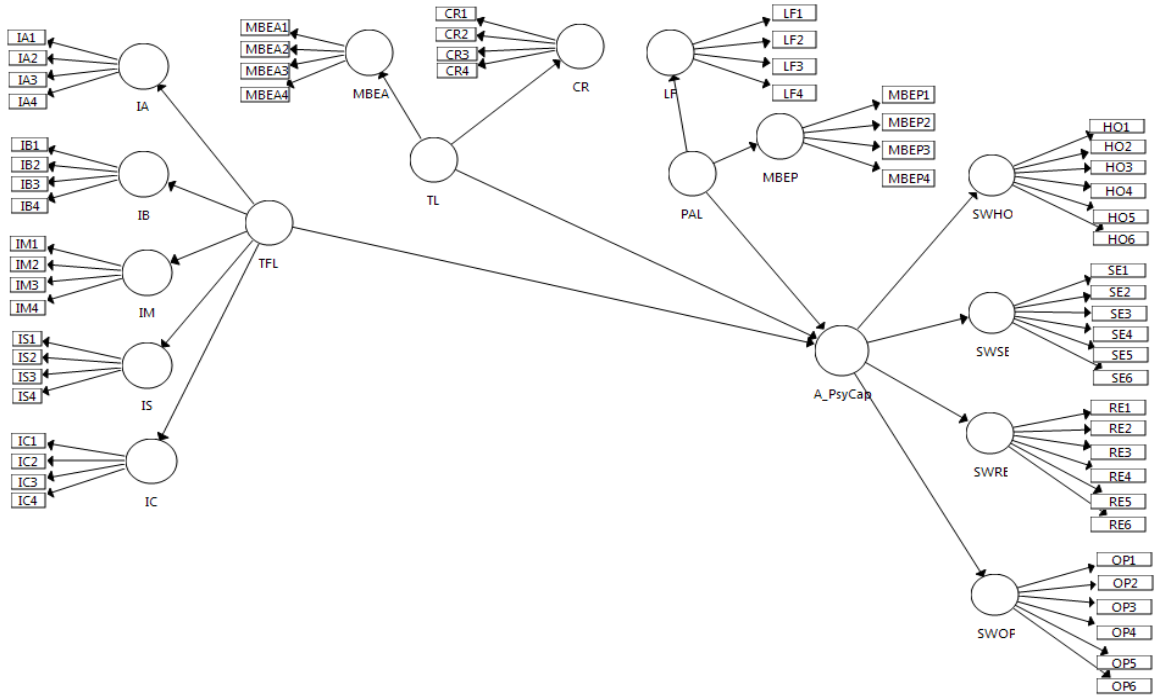

Figure 7. Hypothesized analytical model of the relationship between leadership and psychological capital

Note. IA refers to idealized influence (attributed). IA 1 to IA 4 refers to the indicators of IA. IB refers to idealized influence (behavior). IB 1 to IB4 refers to the indicators of IB. IM refers to inspirational motivation. IM1 to IM4 refers to the indicators of IM. IS refers to intellectual stimulation. IS1 to IS4 refers to the indicators of IS. IC refers to individualized consideration. IC1 to IC4 refers to the indicators of IC. TFL refers to transformational leadership. CR refers to contingent reward. CR1 to CR4 refers to the indicators of CR. MBEA refers to management by exception (active). MBEA1 to MBEA4 refers to the indicators of MBEA. TL refers to transactional leadership. MBEP refers to management by exception (passive). MBEP1 to MBEP4 refers to the indicators of MBEP. LF refers to laissez-faire. LF1 to LF4 refers to the indicators of LF. PAL refers to passive/avoidant leadership. A_PsyCap refers to academic psychological capital. SWHO refers to schoolwork hope. HO1 to HO6 refers to the indicators of SWHO. SWSE refers to schoolwork self-efficacy. SE1 to SE6 refers to the indicators of SWSE. SWRE refers to schoolwork resilience. RE1 to RE6 refers to the indicators of SWRE. SWOP refers to schoolwork optimism. OP1 to OP6 refers to the indicators of SWOP.

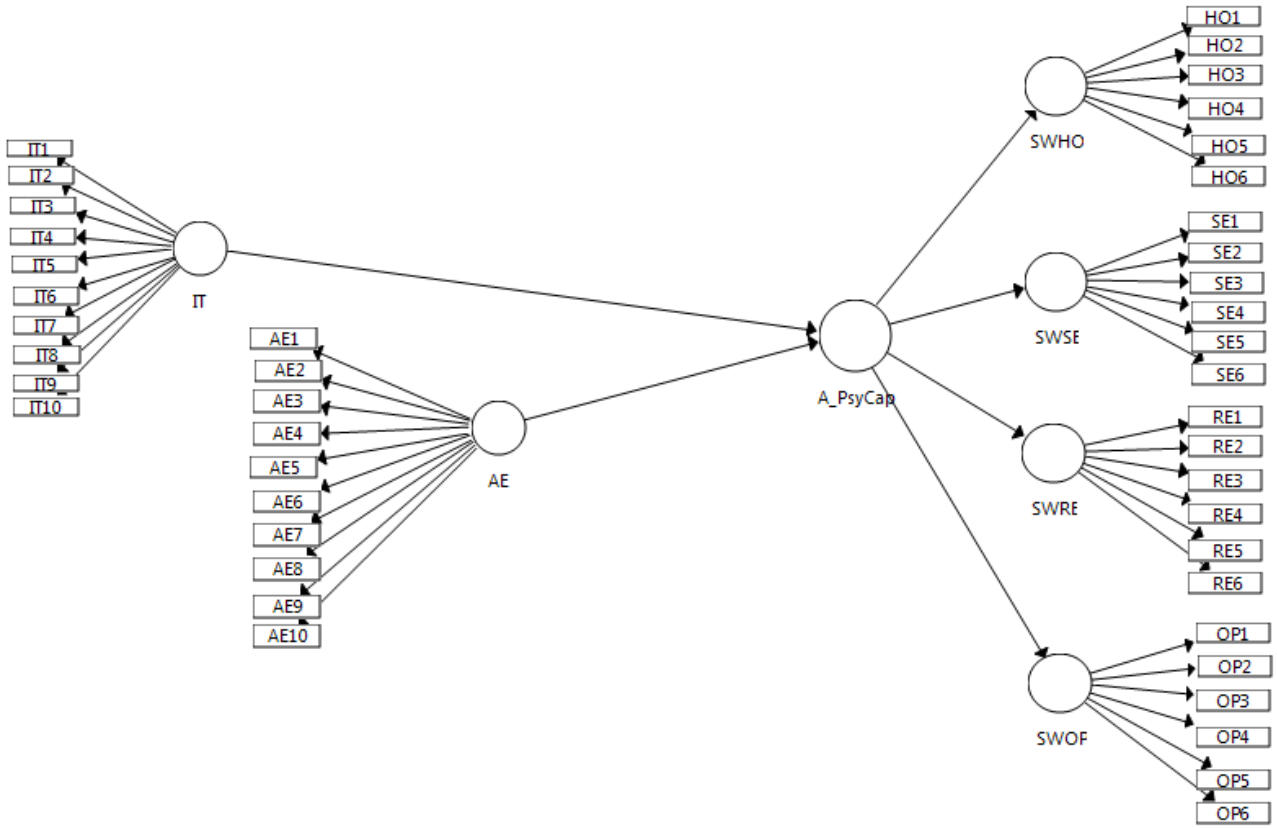

Figure 8. Hypothesized analytical model of the relationship between followership and psychological capital

Note. IT refers to independent thinking. IT1 to IT 10 refers to the indicators of independent thinking. AE refers to active engagement. AE1 to AE10 refers to the indicators of active engagement. A_PsyCap refers to academic psychological capital. SWHO refers to schoolwork hope. HO1 to HO6 refers to the indicators of SWHO. SWSE refers to schoolwork self-efficacy. SE1 to SE6 refers to the indicators of SWSE. SWRE refers to schoolwork resilience. RE1 to RE6 refers to the indicators of SWRE. SWOP refers to schoolwork optimism. OP1 to OP6 refers to the indicators of SWOP.

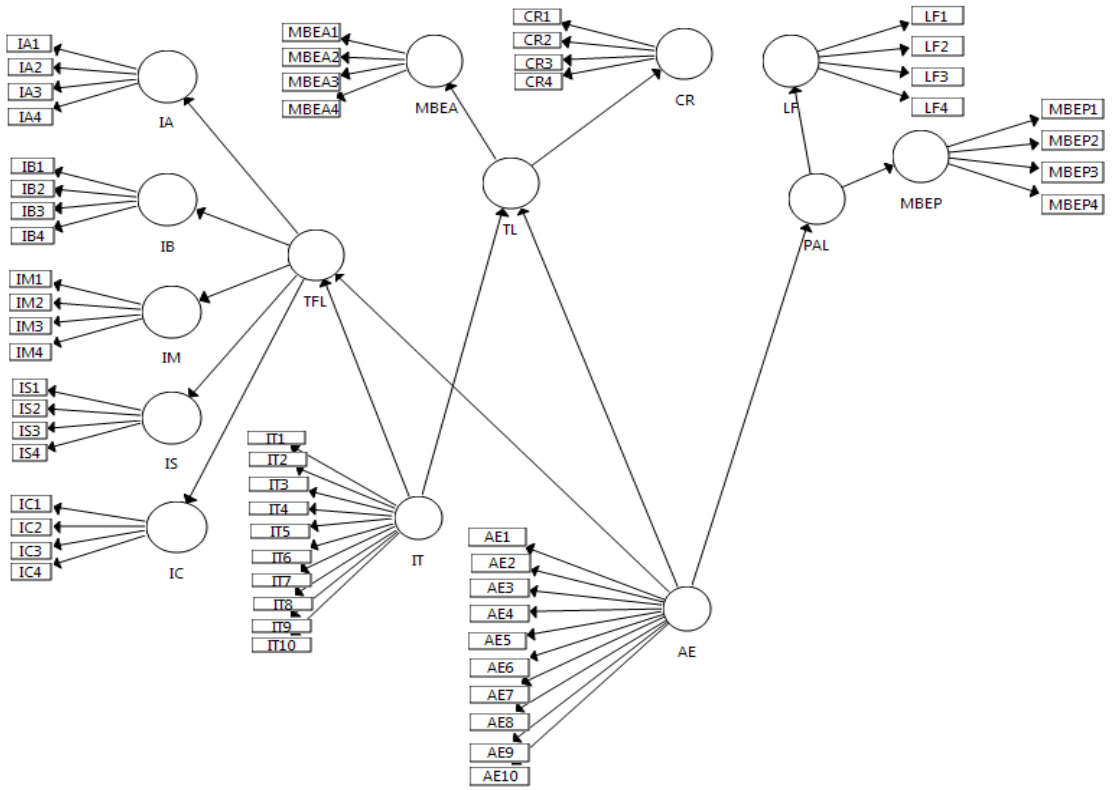

Figure 9. Hypothesized analytical model of the relationship between followership and leadership

Note. IA refers to idealized influence (attributes). IA 1 to IA 4 refers to the indicators of IA. IB refers to idealized influence (behaviors). IB 1 to IB4 refers to the indicators of IB. IM refers to inspirational motivation. IM1 to IM4 refers to the indicators of IM. IS refers to intellectual stimulation. IS1 to IS4 refers to the indicators of IS. IC refers to individualized consideration. IC1 to IC4 refers to the indicators of IC. TFL refers to transformational leadership. CR refers to contingent reward. CR1 to CR4 refers to the indicators of CR. MBEA refers to management by exception (active). MBEA1 to MBEA4 refers to the indicators of MBEA. TL refers to transactional leadership. MBEP refers to management by exception (passive). MBEP1 to MBEP4 refers to the indicators of MBEP. LF refers to laissez-faire. LF1 to LF4 refers to the indicators of LF. PAL refers to passive/avoidant leadership. IT refers to independent thinking. IT1 to IT10 refers to the indicators of IT. AE refers to active engagement. AE1 to AE10 refers to the indicators of AE.

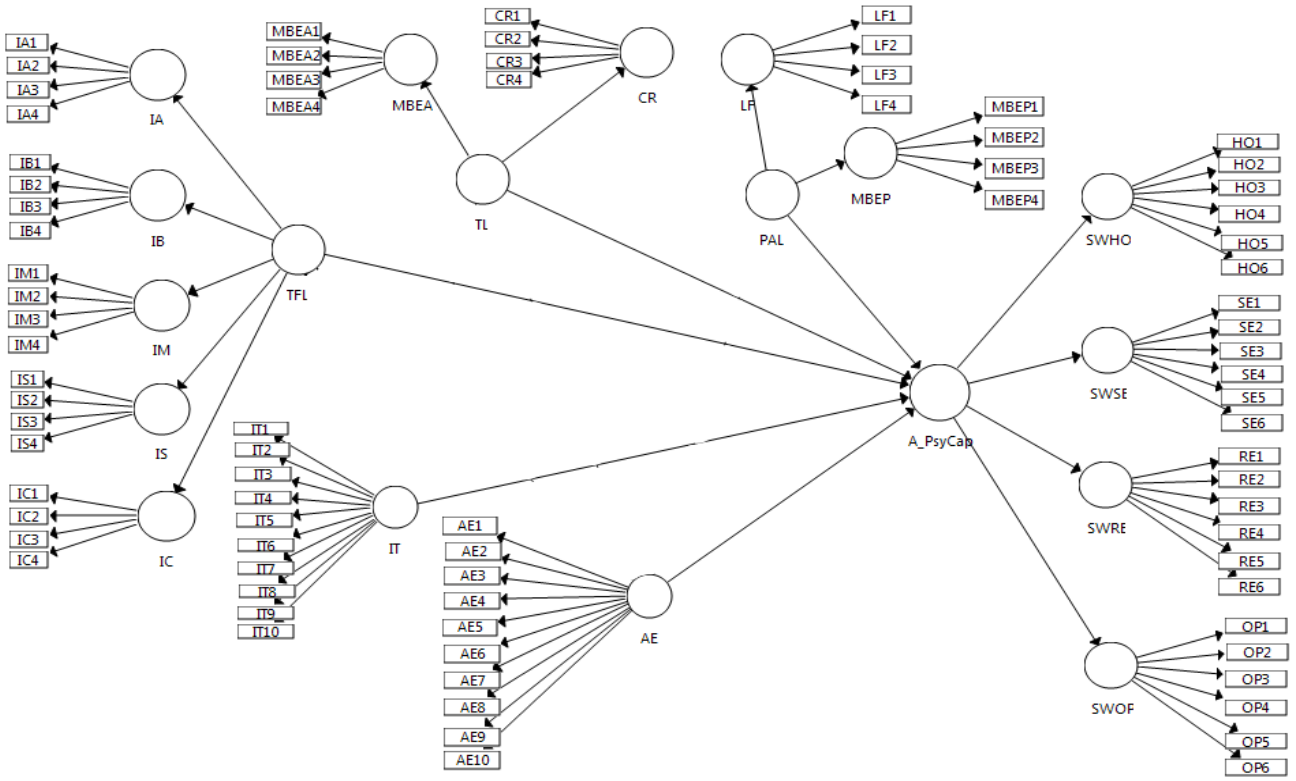

Figure 10. Hypothesized analytical model of followership and leadership as predictors of psychological capital

Note. IA refers to idealized influence (attributes). IA 1 to IA 4 refers to the indicators of IA. IB refers to idealized influence (behaviors). IB 1 to IB4 refers to the indicators of IB. IM refers to inspirational motivation. IM1 to IM4 refers to the indicators of IM. IS refers to intellectual stimulation. IS1 to IS4 refers to the indicators of IS. IC refers to individualized consideration. IC1 to IC4 refers to the indicators of IC. TFL refers to transformational leadership. CR refers to contingent reward. CR1 to CR4 refers to the indicators of CR. MBEA refers to management by exception (active). MBEA1 to MBEA4 refers to the indicators of MBEA. TL refers to transactional leadership. MBEP refers to management by exception (passive). MBEP1 to MBEP4 refers to the indicators of MBEP. LF refers to laissez-faire. LF1 to LF4 refers to the indicators of LF. PAL refers to passive/avoidant leadership. IT refers to independent thinking. IT1 to IT10 refers to the indicators of IT. AE refers to active engagement. AE1 to AE10 refers to the indicators of AE. A_PsyCap refers to academic psychological capital. SWHO refers to schoolwork hope. HO1 to HO6 refers to the indicators of SWHO. SWSE refers to schoolwork self-efficacy. SE1 to SE6 refers to the indicators of SWSE. SWRE refers to schoolwork resilience. RE1 to RE6 refers to the indicators of SWRE. SWOP refers to schoolwork optimism. OP1 to OP6 refers to the indicators of SWOP.

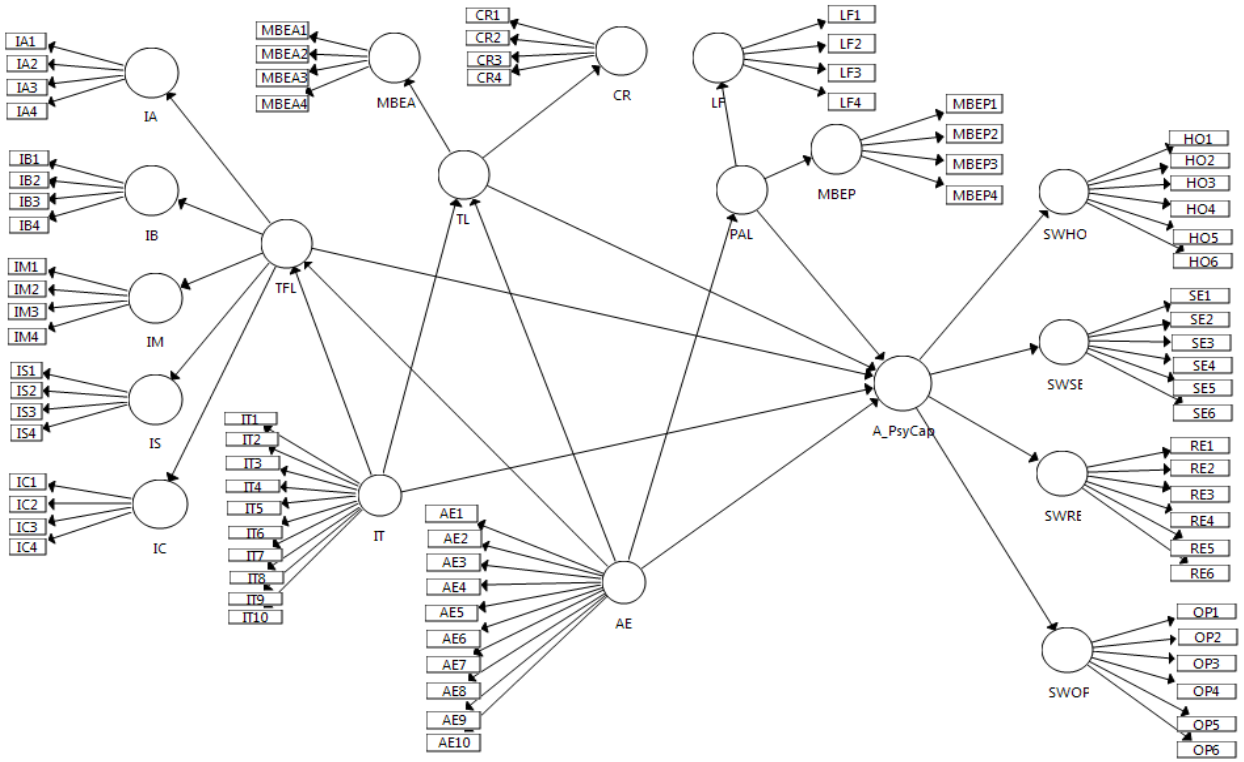

Figure 11. Hypothesized analytical model of leadership as mediator in the relationship between followership and psychological capital

Note. IA refers to idealized influence (attributes). IA 1 to IA 4 refers to the indicators of IA. IB refers to idealized influence (behaviors). IB 1 to IB4 refers to the indicators of IB. IM refers to inspirational motivation. IM1 to IM4 refers to the indicators of IM. IS refers to intellectual stimulation. IS1 to IS4 refers to the indicators of IS. IC refers to individualized consideration. IC1 to IC4 refers to the indicators of IC. TFL refers to transformational leadership. CR refers to contingent reward. CR1 to CR4 refers to the indicators of CR. MBEA refers to management by exception (active). MBEA1 to MBEA4 refers to the indicators of MBEA. TL refers to transactional leadership. MBEP refers to management by exception (passive). MBEP1 to MBEP4 refers to the indicators of MBEP. LF refers to laissez-faire. LF1 to LF4 refers to the indicators of LF. PAL refers to passive/avoidant leadership. IT refers to independent thinking. IT1 to IT10 refers to the indicators of IT. AE refers to active engagement. AE1 to AE10 refers to the indicators of AE. A_PsyCap refers to academic psychological capital. SWHO refers to schoolwork hope. HO1 to HO6 refers to the indicators of SWHO. SWSE refers to schoolwork self-efficacy. SE1 to SE6 refers to the indicators of SWSE. SWRE refers to schoolwork resilience. RE1 to RE6 refers to the indicators of SWRE. SWOP refers to schoolwork optimism. OP1 to OP6 refers to the indicators of SWOP.

APPENDIX E – IRB Approval Letter

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 18060702
PROJECT TITLE: Mechanism for Leadership Development and Effectiveness: The Relationship between Followership, Leadership, and Psychological Capital
PROJECT TYPE: Doctoral Dissertation
RESEARCHER(S): Saurabh Gupta
COLLEGE/DIVISION: College of Science and Technology
DEPARTMENT: Human Capital Development
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 06/19/2018 to 06/18/2019

Edward L. Goshorn, Ph.D.
Institutional Review Board

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